NUDO
A VERZATEC COMPANY

# Installation Guidelines

**BioProtect**

# BioProtect Cleanroom Panels

## BioProtect Installation Guidelines

***Please Read Disclaimers:***

**PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION!!**

These guidelines are provided in good faith to help prevent any problems caused by common errors in installation. The manufacturer and/or distributor of this product shall not be held responsible for installation actions taken or not taken. There are many details of installation that are assumed to be general construction knowledge to experienced installers, which are not included in these instructions. These installation guidelines are intended to be strictly recommendations and are NOT to serve as a step-by-step, fail-safe installation checklist. Selection of an experienced installer is the sole responsibility of the project owner and architect.

Nudo Products, Inc. does not accept any responsibility for job failure resulting from or associated with improper site environmental conditions.

***Safety Instructions:*** When cutting or drilling, always wear protective glasses or goggles and a face mask which covers the face and mouth. Itching due to fibers may be avoided by the use of barrier creams on exposed skin areas. Hearing protection is also recommended when using power tools.

***Storage:*** BioProtect panels and accessories should be stored indoors on a solid, flat, dry surface other than the floor. Do not stack on concrete floor or any other surface that emits moisture. Lay panels flat with proper support on the ends of panels. Do not stand panels on edge. All BioProtect clean room panels must be stored inside. Optimum storage conditions are 60° to 75° (16°C to 24°C) and 35% to 55% relative humidity (Figure 1).

Aluminum accessories edges are sharp, keep clear of other materials.

FIGURE 1

## Supplies and Equipment:

### *Standard BioProtect Cleanroom panel tools needed:*

- Circular saw with fine tooth carbide tipped saw blade
- Power drill with carbide bits
- Trowel recommended by adhesive manufacturer
- Trim Cutter
- Panel Roller
- Swivel-head 18-gauge shears
- Drywall Roto-Zip®
- Jigsaw
- Flat edge finishing tool (putty knife or equivalent)

### *Materials Needed:*

- NUDO BioProtect Clean Room Panels
- Adhesive – As recommended, based on site conditions, by adhesive manufacturer
- Non-abrasive cleaner, soap and water, mineral spirits, for use in clean-up
- Rags
- Sawhorses
- Plywood larger than panels
- Dry, lint free rags
- Tape measure
- Utility knife
- Painter's tape
- Six-penny nails or tool to measure spacing 1/8"
- Carbide tipped laminate cutter
    - ***Note:*** If the installation room has high humidity (65% or higher) then a portable low-cost dehumidifier unit is suggested.

### *Seam Treatment:*

- Cleanroom Wall System Seam Sealant - FasTech RTV 100 – Clear or Hygiseal 3.1
- Seam Finishing: Solid Core PVC Hygienic Base Cove, PVC molding, aluminum trim
- Solvent for clean-up (IPA, acetone)
- Protective gloves should be used when using seam sealant.

- Painter's Tape (minimum 1½" wide)
- Backer rod

## Installation Preparation:

***Pre-Conditioning:*** Installation should NOT begin until the building is enclosed (windows and doors installed). Permanent heating and cooling equipment are in operation, and residual moisture from plaster, concrete, etc. is dissipated. Prior to installation, the installer must determine that the environmental conditions meet or exceed all requirements specified in the installation guidelines. Before installing, remove packaging materials. Allow the panels to acclimatize to the room temperature and humidity for 48 hours before installation. Acclimation temperature range should be 60° to 75°F (16°C to 24°) and relative humidity should be 35% to 55%. Ideally, the room temperature and humidity during acclimation and installation should be the same as the final operation conditions.

***Wall Preparation:*** Every attempt is made to inspect panels for cosmetic and physical abnormalities prior to shipment. However, all panels should be inspected for any defects prior to installation. The installer assumes all responsibility for full inspection of product before installation. **If panels are NOT acceptable, contact your NUDO customer service immediately (800.826.4132). Do not install panels of unacceptable or questionable quality. NUDO Products, LLC. will NOT be responsible for installation or removal costs of unacceptable panels. Walls should be flat and even.**

Remove high spots and fill in low spots prior to beginning installation. Remove any foreign matter that may interfere with the adhesive bond. The wall substrate must be dry and free from dirt, dust, and grease. Installation over uneven surfaces will result in little or no adhesion to the wall substrate, there is possibility a wavy appear will form telegraphing onto the surface of the panel.

***Painted or Primed Surfaces:*** Painted or primed surfaces will not allow certain adhesives to dry. Consequently, they will not achieve full bond strength. Refer to selected adhesive manufacturers installation guide for recommendations based on site conditions. All loose paint, dirt and residue must be removed prior to installation.

***New Gypsum Board or Drywall:*** New gypsum should not be painted or primed. Tapered joints need only a fill and taped coating using a joint compound setting. A finished coat is not necessary or desirable. Any extremely uneven areas should be filled. Remove all drywall dust.

***Plywood:*** Plywood walls must be flat and even, and warped plywood should be removed and replaced. Refer to selected adhesive manufacturers installation guide for recommendations based on site conditions. Solvent-Free adhesive cannot be used on any installation over pressure treated or fire-rated plywood.

***Concrete Block and Brick:*** Concrete block and brick wall surfaces are uneven by nature, and BioProtect panels installed directly to these surfaces will likely develop loose spots, bulges, and buckles. An alternate method is to install gypsum board, cement board or another appropriate substrate over the furring and then install panels according to the standard installation instructions. If it is the owner or contractor's preference to install panels directly to a concrete block or brick wall, it is recommended to refer to adhesive manufacturer's guideline for product selection.

***Non-Porous Surfaces:*** Non-porous surfaces (i.e., ceramic tile, glazed block, moisture resistant substrates, and metal panels) do not provide a good surface for adhesive bonding. General-purpose latex-based, polymer or solvent-based adhesives will not dry properly on a non-porous surface. Franklin Titebond Advanced Polymer Adhesive is recommended in these applications. Installation over this type of surface can be accomplished with rivets or you may contact adhesive manufacturer for additional recommendations 1.800.877.4583.

## Environmental Considerations:

The following special conditions require additional preparation or installation techniques:

***High Humidity and/or Low Temperature Conditions Rooms:*** In high humidity, acclimate panels in operational room conditions for 48 hours prior to installation. It is imperative that moisture is sealed at the entry points with silicone sealant. When using an adhesive during installation, follow manufacturer recommended guidelines for low and high humidity. Optimal conditions are 60°F (16°C) to 75°F (24°C) and 35% to 55% relative humidity. Check with the local building codes for specific requirements. In low temperature conditions, acclimate panels in operational room conditions for 48 hours prior to installation. Use an adhesive recommended for low temperature conditions, following the manufacturer's application guidelines. Check with the local building codes for specific requirements. Do not use BioProtect panels, in high temperature conditions, exceeding 130° F (55°C). Prolonged exposure to direct sunlight MAY CAUSE the panels to fade and/or rapid expansion. Please use extreme caution when installing panels in these type environments. Keep panels 24" from Heaters and shield Radiant Tube Heaters

***Foam Insulation:*** An approved thermal barrier system (e.g., gypsum board) must be used between the BioProtect clean room panels and any foam insulation (Figure 2). Check your local building codes for specific requirements.

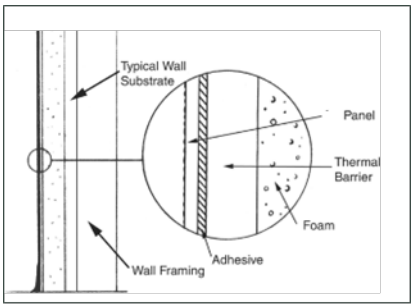


FIGURE 2

## Choice of Adhesive:

Please review selected adhesive manufacturer's recommendations based on site conditions.

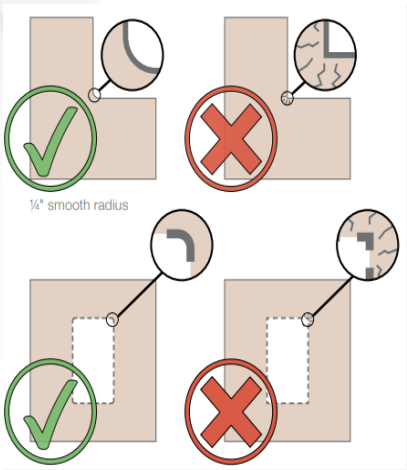
### *Pre-Installation Planning:*

- Pre-fit each panel before fastening and/or adhering in place.
- All cutting and drilling should be done prior to the application of adhesive.
- Preplan for cove or base molding. BioProtect panels should be installed so that the base molding will not restrict

### *Basic Installation Steps:*

1. Trim panel to fit, if needed. Panels are kerfed to allow for connecting trim to slide into panel. Countersink screw onto flange of aluminum connector trim every 8" to hold panel in place and slide next panel into trim. versize pilot holes if drop-in ceiling wall angle is attached to and through BioProtect.
   (please allow for proper expansion and contraction)
2. ¼" smooth radius corners at all cut out fixture openings.
3. Apply adhesive to 100% of the backside of panel using a crosshatch pattern using a trowel recommended by the adhesive manufacturer.
4. Panels should be installed progressively on the wall starting at the inside corner, leaving appropriate room at panel joints and corners for expansion and contraction.
5. Using a laminate roller, remove air pockets by rolling down and out toward the panel edge.
6. Install next panel.

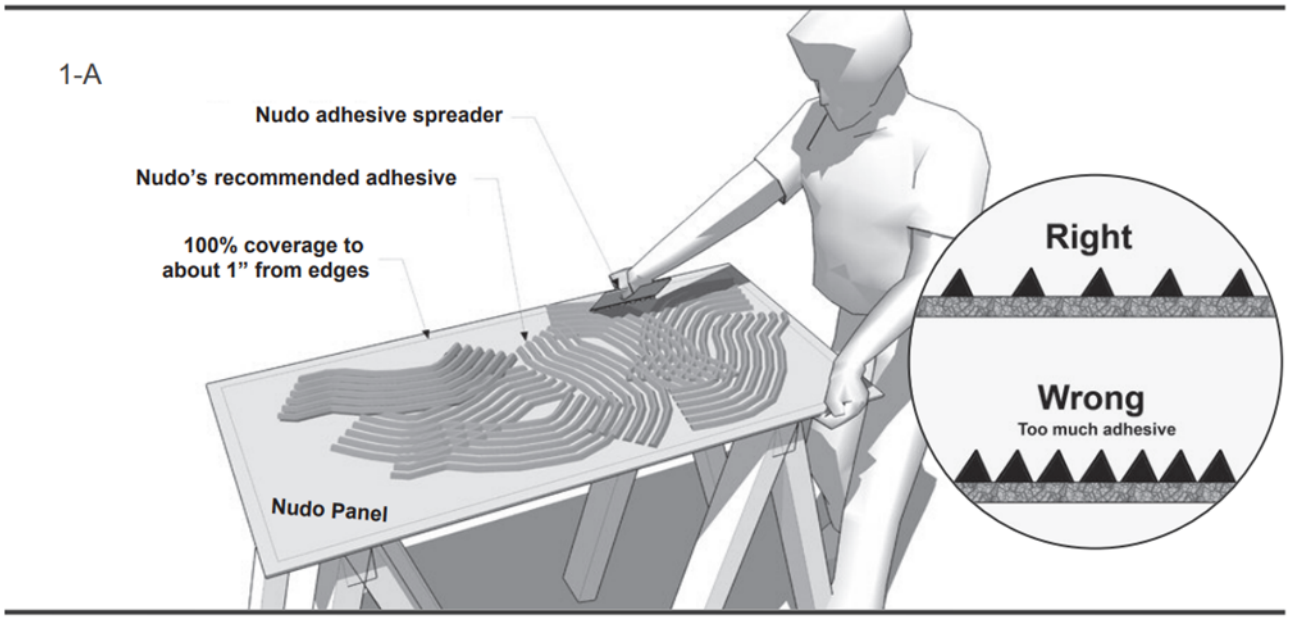
   Without leaving the required space for expansion and contraction, BioProtect panels may develop buckles and/or bulges because panel movement will occur.




***Cutting Instructions:*** POSITION PANEL FACE DOWN ON A COVERED WORK AREA When cutting with a circular saw, position the panel so that the saw blade enters the back side of panel first to avoid chipping or damage. (Figure 3)

***Radius Corners of Cut-Outs:*** The inside corners of all cut-outs must have a radius of at least 1/8" (3.2 mm). Failure to radius. Corners may result in stress cracking. For pilot holes, a 1/4" (6.36 mm) diameter router bit or drill bit may be used, use a jig saw to complete the radius cut out. Allow 1/8" (3.2 mm) clearance around all fixtures, electric boxes, piping, etc.

## Attaching to Wall:




***Applying Adhesive:*** Follow the adhesive manufacturer's recommendations for trowel style (e.g., appropriate height of adhesive bead left by trowel). It is important to apply adhesive carefully and follow all directions to prevent problems that may result from using too little or too much adhesive. 100% adhesive coverage applied to the entire back of the panel is recommended by using a "crosshatch" pattern. The adhesive should extend to all edges of the panel and should be applied directly to the back of each individual BioProtect panel. (Figure 4) Do not apply adhesive to wall.

***Spacing:*** All BioProtect panels have expansion characteristics due to changes in humidity and temperature that must be accounted for during installation with proper spacing around panel edges and around fixtures attached to the panel/wall. Adequate space must be allowed for panel expansion and contraction. For BioProtect panels, a minimum gap of 1/4" is required at the top and bottom of each panel. Between the panels should have a minimum of 1/8", but it is recommended to have 1/4". It is recommended that panels do not exceed 48" in width and 12' in length to aid in ease of installation and ensure a satisfactory finished installation. See the BioProtect panel Expansion Joint Chart for appropriate spacing at ceiling, floor and between panels. When a moisture resistant installation is required, silicone sealant should be applied in all moldings around all panel edges, fastener, and fixtures.

***Expansion Joint Chart:***

| | Recommended | Minimum |
|---|---|---|
| Gap at Ceiling | 1/4" | 1/4" |
| Gap at Floor | 1/4" | 1/4" |
| Gap Between Panel and Center Molding | 1/4" | 1/8" |
| Gap Between Panel When Not Using Moldings | 1/4" | 1/8" |
| Gap Around Rivets | 1/8" | 1/8" |

PANEL AND SEAM

***Treatment Sequence:*** All panels are installed prior to the seam treatment. Before caulk and sealant can be applied, installed panels need to be adhered to for a minimum of 6 hours, but 24 hours is recommended when room temperature is at 72°F and 45%-50% humidity.

***Panel Installation Finish:***

1. Use a laminate roller to ensure all air pockets are removed between the panel and the wall and to ensure a good bond between the panel and the wall. Start in the top corner of the panel away from the leading edge. Begin rolling down and out towards the panel edge without a molding.
2. Adhesive residue may make panels appear stained and will collect dirt. Remove any adhesive residue upon completion of the job. To remove latex-based adhesive, clean with a non-abrasive cotton cloth and warm water. If necessary, use a mild, non-abrasive detergent.
3. For best results, change water and cleaning rags frequently. For clean-up with solvent based adhesives, use mineral spirits or acetone to remove residue. Use a laminate roller to ensure all air pockets are removed between the panel and the wall and to ensure a good bond between the panel and the wall. Start in the top corner of the panel away from the leading edge. Begin rolling down and out towards the leading panel edge.
4. Hammer six-penny nail against the panel leading edge two feet on center. This will maintain proper spacing between panels. **Leave nails in place until adhesive sets up (per manufacturer's instructions) and then remove.
5. Surfaces should be free of grease, dirt, and other contaminants. Clean seams as necessary with a dry, lint free rag or a rag dampened with solvent if necessary. Installed panels need to be adhered to the wall before beginning seams for a minimum of 6 hours, but 24 hours is recommended.
6. Remove any adhesive between the panels with a sharp-edged screwdriver or small flat blade.

## Seam Treatment Options:

NUDO recommends the use of a pneumatic caulk gun with all seam sealant applications.

### *Wall Preparation:*

1. Start in an inside corner. Mark plumb line 48" (1.2 m) from corner. The first panel should be set true with a plumb line.
2. Apply 100% adhesive coverage to the entire back side of the panel using a “crosshatch” type pattern. Place panel against wall and align leading edge with plumb line. Use caution so that adhesive does not seep into the gap between the panels.

### *Preparation of a New Cartridge:*

1. Loading the cartridge into the dispensing gun
   A. Remove the plastic nut from the outlet end of the sealant cartridge.
   B. Remove the metal retaining clip and the plastic plug in the outlet ports of the cartridge and discard (re-insertion of the plugs into the wrong side can cause sealant to cure and block the ports).
   C. Load cartridge into dispensing gun ensuring that the plungers are lined up properly.
2. Leveling the plungers
   A. To ensure that the sealant is mixed and dispensed at the proper ratio, the plungers need to be level at the start of each new cartridge prior to use.
   B. Prior to installing the mixing tip, slowly advance the plungers until a small amount of material is equally dispensed from each port. Once this occurs, the plungers are level.
   C. Hand mix the dispensed material and discard.
3. Attach Mixing Tip and Purge
   A. After leveling the plungers, fit the plastic mixing tip onto the outlet end of the cartridge and secure with the plastic nut that was removed previously.
   B. After mixing tip has been secured, dispense a small bead of material (approximately one tip length) to ensure that a proper mix ratio is being achieved.
   C. Material is now ready for use.
4. Open Time
   A. Open time is the amount of time from when the sealant begins to travel down the mixing tip until dispensed product needs to be completely worked/processed in the seam.
   B. It is important to note that open time begins at initial mix, not at time of dispense onto the surface of the application.

C. For urethane sealant, the approximate open time is 3-5 minutes at 75°F (24°C). This means that at an ambient temperature of 75°F (24°C), the material applied to the seams of the wall panel must be worked/processed within 3 minutes of the initial purge through the mixing tip.
D. Open time will fluctuate as the temperature increases or decreases. It can be estimated that for every 18°F (10°C) increase in temperature, the open time will be cut in half.
E. Operators will also need to be aware of the timing in regard to the material remaining in the mixing tip after each application. Material will either need to be purged (approximately every 2-3 minutes at 75°F) between uses or a new mixing tip applied at the re-start of a partial cartridge. Temperature fluctuations described above have same effect on purge time.

***Painter's Tape:***

1. Prior to dispensing caulk, each seam will need to receive painter's tape on each side of the seam. Tape needs to be applied as close to the panel edge as possible without going over into the seam. If panel has a pre-applied tack film, then If panel has a pre-applied tack film, that can be left in place.

***Apply Urethane Sealant to Seams/Joints:***

General Process notes:

1. At end user discretion as to the number of operators used for the seam seal application process. A minimum of two operators is recommended.
2. If one operator is used, then each seam will have to be processed individually (filled and then smoothed by the same operator before moving on to the next seam). A new mixing tip will likely need to be used for each seam in this case.
3. For multiple operators (two or more), the end user may design the process such that one operator can dispense, while a second operator can follow and smooth the joints. Care will need to be taken to ensure that the open time of the material is not exceeded in these scenarios.
4. Seam Seal Process order should be:
   A. Vertical flat panel seams
   B. Vertical outside corners
   C. Vertical inside corners
   D. Floor and/or ceiling joints
   E. Windows and door frames

***Vertical Flat Panel Seams:***

1. Vertical Seams should be processed first as they are intended to be smoothed flat with the panel. Inside corners, floor, and ceiling joints are smoothed such that the seam sealant stands proud of the surface, which would require placement over any vertical seams that may interface with these joints.

2. Material should be dispensed into each seam at a rate such that the seam is completely filled with sealant but completed within the necessary open time for the sealant. It is recommended that sealant is installed in sections no longer than 3' for all panel length as a benchmark. Section length will vary depending on environmental conditions at job site.
3. It is recommended to pull the dispensing gun away from bead during application.
4. A good technique is to add a small horizontal piece of painter's tape every 3' and ensure that there is enough sealant in the cartridge to complete a full seam. Performing a cartridge change in the middle of a seam application could increase the risk of exceeding the open time of the sealant.
5. If the seam has a large gap and/or cannot be filled by the sealant in one pass, an initial "filler bead" can be applied and then a secondary bead can be applied over the top of the initial bead after the initial bead has reached full cure. Mechanical filler, such as weather- strip putty, may also be used to fill large gaps prior to the application of the urethane seam sealant.
6. Smoothing the sealant
   A. After the sealant has been dispensed, smooth the sealant beads flush with the panel surface using the Inline Seam Finisher.
   B. Finishing/smoothing tools and techniques are at the discretion of the operator and/or the end user.
   C. Smoothing of the sealant must occur within the open time of the sealant.
   D. As soon as the smoothing of the sealant is complete, remove the horizontal painter's tape.
7. Remove horizontal tape and begin next 3' section. A good technique is to apply the sealant below the previous section and "bump up" the sealant into the previous section.
8. Once all sections of the wall are completed, remove the vertical painter's tape. Remove Any excess sealant on panels can be cleaned using a solvent dampened rag.

***Vertical Inside Corners:***

1. Repeat process listed in Vertical Flat Panel Seams except for the format to smooth the sealant.
2. Smoothing the Sealant
   A. After the sealant has been dispensed, smooth the sealant beads flush with the panel surface using the Radial Seam Finisher if a rounded corner joint is desired.
   B. The Inline Seam Finisher can also be used if a flat inside corner bead is desired.
   C. Finishing/smoothing tools and techniques to be at the discretion of the operator and/or the end user.
   D. Smoothing of the sealant must occur within the open time of the sealant.
   E. As soon as the smoothing of the sealant is complete, remove the painter's tape. Any excess sealant on panels can be cleaned using a solvent dampened rag.

***Horizontal Floor and Ceiling Joints:***

1. Material should be dispensed into each seam at a rate such that the seam is filled completely with sealant but completed within the necessary open time for the sealant.
2. It is recommended to pull dispensing gun away from bead during application.
3. Ensure vertical seams are cured prior to processing horizontal seams.
4. It is also recommended that operators ensure that there is enough sealant in the cartridge to complete a full seam. Performing a cartridge change in the middle of a seam application could increase the risk of exceeding the open time of the sealant.
5. If the seam has a large gap and/or cannot be filled by the sealant in one pass, an initial "filler bead" can be applied and then a secondary bead can be applied over the top of the initial bead after the initial bead has reached full cure. Mechanical filler, such as weather-strip putty, may also be used to fill large gaps prior to the application of the urethane sealant.
6. Smoothing the Sealant:
   A. After the sealant has been dispensed, smooth the sealant beads flush with the panel surface using the radial seam finisher if a rounded corner joint is desired.
   B. The inline seam finisher can also be used if a flat inside corner bead is desired.
   C. Finishing tools and techniques to be at the discretion of the operator and/or the end user.
   D. Smoothing of the sealant must occur within the open time of the sealant.
   E. As soon as the smoothing of the sealant is complete, remove the painters' tape. Any excess sealant on panels can be cleaned using a solvent dampened rag.

***Seams Around Door and Window Frames or Other Special Application Areas:***

1. Repeat process listed in Vertical Flat Panel Seams.
2. Material should be dispensed into each seam at a rate such that the seam is completely filled with sealant but completed within the necessary open time for the sealant. As these seams typically have a larger gap, they may not be able to be filled by the sealant in one pass. In that situation, an initial "filler bead" can be applied and then a secondary bead can be applied over the top of the initial bead after initial bead has reached full cure.
   A. A mechanical filler, such as weather-strip putty, may also be used to fill large gaps prior to the application of Urethane Sealant.
   B. IMPORTANT NOTE: A larger mass of sealant, which is likely present in these types of seams, will lower the available open time during which the material can be successfully smoothed.
3. Smoothing the Sealant
   A. After the sealant has been dispensed, smooth the sealant beads flush with the panel surface. Since these

joints are larger and often have an irregular shape, it is at the discretion of the installer to determine the best method for smoothing the joint. A combination of common smoothing tools may be required. (Inline seam finisher should be used for small in-line panel seams or larger radial seam finisher used for corners.) Smoothing of the sealant must occur within the open time of the sealant.

B. As soon as the smoothing of the sealant is complete, remove the painter's tape. Any excess sealant on panels can be cleaned using a solvent dampened rag.

***Seam Sealant Cleaning:***

Clean equipment and tools prior to the sealant cure with organic solvents such as isopropyl alcohol.

- Only allow an experienced user to handle such equipment.
- Only mount the cutting wheel on the machine designed for the operation.
- Do not use force. Do not give the wheel side pressure.
- Cut in a straight line, ninety degrees to the work piece.

***Wainscot Installation Steps:*** One-piece trims installed with BioProtect wall panels are inserted into the one-piece molding opening. Polymer based adhesive should be used when installing moldings. Do not apply silicone to install. Installations requiring additional abuse resistance should use a stainless-steel corner guards. Installation of panels over 12 feet long is not recommended.

1. Create a level line in the room. Start in an inside corner.
2. Measure the distance from bottom of the panel to the bottom of the top cap trim and cut inside corner trim to that dimension.
3. Relieve the top of the back flange on the inside corner trim to allow for cap trim installation.
4. Place the Inside Corner Trim into position and secure with self-tapping stainless-steel screws.
5. Place first panel against wall and align leading edge with plumb line.
6. If divider trim is required, measure and cut the divider trim, then relieve both sides of the back flange to allow for cap trim installation later.
7. Place the second panel into position and slide the division bar between the two panels, leaving the gap for top cap, repeating steps 3-7 as needed. Work in one direction around the room.
8. If a moisture resistant installation is required, silicone sealant should be applied in all moldings and around all panel edges, fasteners and fixtures.

***Full Height Installation Steps:*** One-piece moldings for installation with BioProtect wall panels are inserted into the one-piece molding opening. Polymer based adhesive should be used when installing moldings. Do not apply silicone to install. Installations requiring additional abuse resistance should use the stainless-steel corner guards. Installation of panels over 12 feet long is not recommended.

1. Create a level line in the room.
2. Install all perimeter bottom cap trim. Use self-tapping stainless steel screws to secure bottom cap trim. (See Figure 1)
3. Install 1st panel, then measure the distance between the top and bottom exposed edges of the cap trim. Use this measurement to cut divider, inside corners and outside corners. (See Figure 2)
4. All dividers (if required), inside and outside corner trim is to be measured and cut to install between the exposed edges of the top and bottom cap. Inside and Outside Corner Trim should be secured with self-tapping stainless steel screws. (See Figure 3)
5. Slide the next panel into place and then insert the divider trim. Work in one direction around the room.
6. Once all panels and trim options are installed in each section, go back and slide cap trim onto top edge of panels.
7. Work in one direction around the room.
8. If a moisture resistant installation is required, silicone sealant should be applied in all moldings and around all panel edges, fasteners and fixtures.

Hygienic Base Accessories

***Cutting Instructions:*** Only allow skilled and trained personnel who are familiar with using these tools to handle this equipment. Only mount the wheel on a machine designed for the operation. Never use force when mounting the wheel. Always start cutting in a straight line, at ninety degrees to the work piece, applying only light pressure, keeping the cut positioning constant. Applying too much pressure may reduce the speed of rotation with affects the quality of cut and damages the wheel. Ultra-thin wheels of 1.0mm, 1.6mm, or 1.9mm can be applied on massive material. By swinging the machine slightly forward and backward, the cut will be made easiest and quickest. Never give the wheel side pressure as this will cause wheel breakage and is dangerous.

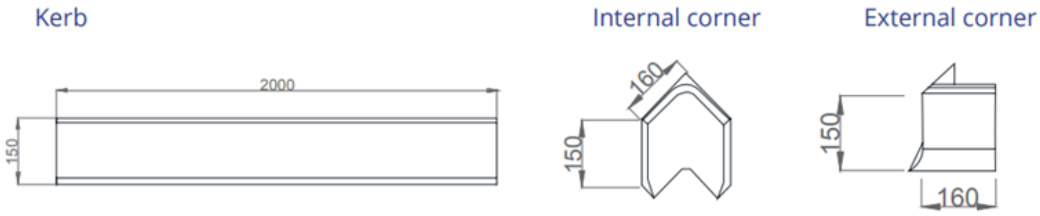
- Only allow an experienced user to handle such equipment.
- Only mount the cutting wheel on the machine designed for the operation.
- Do not use force. Do not give the wheel side pressure.
- Cut in a straight line, ninety degrees to the work piece.

***Installation Preparation:***

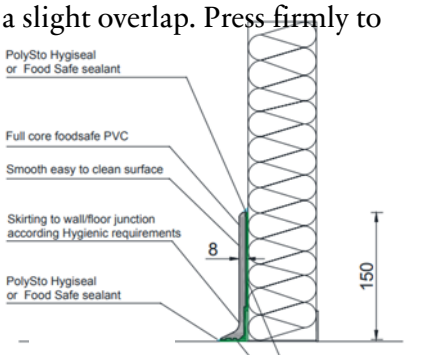
- Prior to installing the base and related components, all surfaces must be clean, structurally sound, and free of loose particles.
- Also check for any paint, solvent, grease, sealers, and drywall residue that would inhibit proper building of the base/components to the substrates. If necessary, do an adhesion test in a non-conspicuous area. [see manufacture's recommendations for adhesive]
- Floors must be clean and level per industry standards. Any deviation greater than 1/8" within 10' is deemed unacceptable and will not be permitted. Corrections to an un-level floor can be made by floating or grinding the concrete into the proper tolerances.

- Prolonged direct sunlight on stainless may cause rapid expansion depending upon the amount of heat buildup. Use caution in these areas.
- Lay out all of the pieces as a sequenced puzzle to dry fit the entire run/ room.
- Ensure all joints are “hairline” in nature (adjust if need be using a file, grinder, or sander)
- Pre-fit scribe each component before fastening and/or adhering in place.
- All cutting and drilling should be done prior to the application of adhesive.
- Preplan intersecting points/joints surface applied cove, base moldings and trims to eliminate any interference with other molding’s and or wall fixtures. Pre-drill a counter sinking hole using a drill bit 3/32” larger than the fastener required. Pre-drilled holes should be placed at stud locations.

***Basic Kerb Installation:***




1. Establish a true and level line on the wall appropriate to the back height used.
2. Mark and/or snap a line.
3. Locate and mark a series of points to indicate the leading edge of the base on the floor.
4. Using a pencil or permanent marker, continue with a straight edge to complete the line. Do not use a chalk line: Using a pencil or permanent marker, mark adhesive location(s) per base requirements.
5. Apply hard fix sealant interconnection (one per joint) at joint(s). Allow for a slight overlap. Press firmly to back and bottom of base.
6. Attach adjoining piece, pressing firmly to back and bottom of base. Only attach as many pieces in a run that can be properly installed by 1-2 people in a 10-minute time frame. A run is typically from inside corner to outside corner.
7. Apply adhesive per manufacturer’s recommendations. Do not apply any more adhesive than can be installed/embedded in the time allowed. Adhesive open time is 10 minutes.
8. Embed “run” vertically into the sealant. Do not slide horizontally. Align base to top of marks on wall and secure with tape or rivets. Align front edge of base on floor line and secure with tape.
9. Seal all seams with manufacturer’s recommended silicone, when required.




10. Immediately clean up excess sealant with mineral spirits and a clean rag. Dispose of properly.

**AN IMPORTANT NOTE ABOUT MOISTURE RESISTANT SUBSTRATES**

MOISTURE-RESISTANT GYPSUM VARIES TREMENDOUSLY, WHILE SOME OF THESE NEW SURFACES ALLOW MOISTURE TO PENETRATE, OTHERS RETARD OR TOTALLY PREVENT PENETRATION OF WATER OR SOLVENT. TESTING BY CRANE COMPOSITES INDICATED THAT WHEN WATER BASED OR SOLVENT BASED BIOPROTECT ADHESIVES ARE USED IN CONJUNCTION WITH MOISTURE RESISTANT GYPSUM THE ADHESIVE ABILITY TO CURE IS SEVERELY COMPROMISED IN THE CRUCIAL FIRST 24 HOURS OF INSTALLATION AND THE POTENTIAL FOR A SUCCESSFUL INSTALLATION IS GREATLY DIMINISHED. THE CONSTRUCTION TRADE IS BECOMING EXPOSED TO AN INCREASINGLY LARGE NUMBER OF NEW TYPES OF MOISTURE RESISTANT GYPSUM FROM THE DRYWALL INDUSTRY. GIVEN THESE TWO FACTS, IT IS RECOMMENDED THAT YOU CONTACT YOUR ADHESIVE MANUFACTURER'S TECHNICAL SUPPORT DEPARTMENT, PRIOR TO ANY BIOPROTECT INSTALLATION OVER WALL SUBSTRATES OTHER THAN STANDARD GYPSUM.

STANDARD GYPSUM IS NUDO PREFERRED SUBSTRATE CHOICE WHEN INSTALLING BIOPROTECT WALL PANELS. BIOPROTECT OFFERS RESISTANCE TO MOLD, MILDEW, AND BACTERIA GROWTH AND HAS A HIGH IMPACT STRENGTH, HIGH MOISTURE RESISTANCE, CHEMICAL RESISTANCE AND STAIN RESISTANCE. A MOISTURE RESISTANT SUBSTRATE MAY NOT BE NECESSARY WHEN AN BIOPROTECT FINISH IS SPECIFIED. HOWEVER, SHOULD A MOISTURE-RESISTANT GYPSUM BE REQUIRED PLEASE CONTACT ADHESIVE SUPPLIER TO REVIEW THE PROPOSED SUBSTRATE AND OBTAIN A RECOMMENDATION ON APPROPRIATE ADHESIVE FOR THAT TYPE OF SUBSTRATE SURFACE PRIOR TO INSTALLATION.

NUDO WILL NOT BE RESPONSIBLE FOR FAILED INSTALLATIONS DUE TO LACK OF ADHESIVE BOND STRENGTH BETWEEN THE ADHESIVE AND THE SUBSTRATE.

FOR QUESTIONS OR CONCERNS, PLEASE CONTACT:
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