



## **COMMERCIAL FLOORING**

# Installation Manual

September 2011

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## Installation Quick Tips

- If you have never installed PROTECT-ALL<sup>®</sup> Commercial Flooring contact Oscoda Plastics<sup>®</sup>, Inc. for training.
- A vapor barrier (10 mil) must be installed under a concrete slab.
- Proper moisture tests need to be conducted to maintain warranty. Relative humidity is slab should be under 75% and this test should supersede 3lbs./1000 sq.ft./24hrs. for the Calcium Chloride Test.
- All coatings and curing compounds need to be removed from the slab.
- The sub-floor needs to be cleaned of all foreign debris and dirt.
- Always use new v-notched trowels to spread adhesive. 1/8" v-notch for 1/4" material.
- Floor sheets should be acclimated (36-72 hrs.) on site, cut and dry-fitted to perimeter walls, and all penetrations cut out (drain areas routed-out) before adhesive is applied to substrate.
- Flooring should be set into Oscoda Plastics' adhesive immediately.
- A 100lb. roller is required to roll the flooring into the adhesive.
- Correct V-welding temperatures will be determined by a visible wash on each side of weld rod, fusing of the floor surface near grooved weld zone, and the flow of weld rod fusing into bottom of grooved joint. **Calibration of the heat gun** is required. **Test-weld samples of ordered sheet material and V-weld rod daily before any finish welding begins.**
- Maximum speed of V-welding should be between 1-1/2 and 2 linear feet per minute for v-rod.
- Failure to follow all of the Oscoda Plastics' installation instructions and use of all the required system components will void the manufacturer's warranty.

## 1) Before You Start

This installation manual is designed to assist the professional installer by presenting them with the unique characteristics of PROTECT-ALL Commercial Flooring products and PROTECT-ALL installations.

A PROTECT-ALL flooring installation requires safe work habits in a safe environment. Installers should review and follow all safety and health information available such as Material Safety Data Sheets (MSDS), labels, instructions, specifications, and other pertinent publications.

The installation of PROTECT-ALL should be performed by a professional flooring installer, familiar with PROTECT-ALL's unique characteristics, local building codes, and ASTM Standards. This installer should have at least four years of sheet vinyl and heat-welding experience. ***Oscoda Plastics recommends that the professional installer attend and pass the manufacturer's installation training class prior to any wet area installation (such as commercial kitchens). Contact Oscoda Plastics at 800-544-9538 for complete details and eligibility requirements.***

## 2) Definitions

### a) Grade Levels

- i) **Suspended** – A suspended floor is one with a minimum of 18" of well-ventilated air space below.
- ii) **On-Grade** – An on-grade floor is one in direct contact with the ground or over filler that is in direct contact with the ground. A concrete slab on ground level is an example of this type of floor.
- iii) **Below-Grade** – A below-grade floor is partially or completely below the surrounding grade level in direct contact with the ground or over filler that is in direct contact with the ground. ***NOTE: On-grade and below-grade floors should have vapor barriers installed under the concrete slab.***

### b) Sub-Floors and Underlayments

- i) **Sub-Floor** – A sub-floor is selected for structural purposes and is the substrate for the underlayment.
- ii) **Underlayment** – The smooth and level surface used as the substrate for the floor covering.
- iii) **Sub-Floor/Underlayment Combination** – A surface that must meet structural requirements as well as have a smooth and level surface for the floor covering.

## 3) Interior and Exterior Preparations

***Oscoda Plastics recommends installing PROTECT-ALL flooring only over structurally-sound, clean, dry concrete or concrete board (½" minimum), or underlayment grade plywood. Installing over other substrates and/or existing finishes is at the sole discretion of the installer and end-user. Oscoda Plastics does not warrant the performance of any installation not recommended in this installation manual.***

### a) Wood Sub-Floor Preparation

- i) PROTECT-ALL flooring can be installed over suspended wood sub-floors. On-grade or below-grade installations will be at the discretion of the installer and end user and are not recommended.
    - (1) **¾" marine-grade plywood** is recommended for the finished sub-floor/underlayment in cooler and freezer areas.
  - ii) Sub-floor panels, strip wood, board or plank-type sub-flooring may require covering with an underlayment. Wood underlayments should be structurally-sound, designed for resilient flooring underlayments purposes. Panels should be clean, free of any dirt, wax, oil, or adhesive residue. All wood underlayments/sub-floors should be solid, well nailed at the joints, and free from movement. Reference ASTM F1482, Standard Practice for Installing and Preparation of Panel Type Underlayments to Receive Resilient Flooring.
  - iii) Old wood floors to be covered should be stripped of paint, varnish, wax, oils, and adhesives. If this is not possible, then cover with an appropriate underlayment.
 

**NOTE: Luan products are NEVER recommended for use under PROTECT-ALL flooring.**
  - iv) Floors drains, of any type and size, should be properly sloped prior to PROTECT-ALL being installed.
  - v) Prior to beginning the installation, always broom sweep and shop vacuum to ensure that all dust and debris has been removed.
- b) Concrete Floor Preparations/Testing**
- i) ALL on-grade and below-grade concrete floors should have an existing vapor barrier (10 mil/0.010 in.) installed below the slab. **Consult the following standards; ASTM E1745-97, ASTM E96-00, ASTM E1643, and ACI 302.1R ([www.astm.org](http://www.astm.org) and [www.aci-int.net](http://www.aci-int.net)).** The concrete sub-floor should be dry, smooth, and structurally-sound. It must be flat (F<sub>F</sub>20) and level (F<sub>L</sub>15), except for sloping to drains. It should be free of depression, scale, and foreign deposits of any kind. Paint (any type), varnish, oil, wax, stain, and old adhesive residue must be removed. Prior to the installation, the floor should be swept and shop vacuumed to ensure all dust has been removed.
  - ii) The following tests should be performed prior to any PROTECT-ALL installation over concrete: Tests 1, 2, 3, and 4 should be conducted three times in three different testing areas within the first 1,000 square feet and one test every 1,000 square feet thereafter. Reference ASTM F710 Standard Practice for Preparing Concrete Flooring to Receive Resilient Flooring.
    - (1) **Calcium Chloride Test** – Required results: **moisture vapor emission rate of 3lb./1,000ft<sup>2</sup> per 24 hrs.** (See 3.b.viii) Consult ASTM F1869.
    - (2) **Relative Humidity Test** – Required results: **75%-80% relative humidity.** (See III.B.8) Consult ASTM F2170.
    - (3) **PH Test** – Required results: **8 to 10.** (See 3.b.viii).
    - (4) **PSI Test** – Required results: **3500 psi – minimum.**
    - (5) **Adhesion Test** – If the results for test 1, 2, and 3 are acceptable, a final adhesion test is recommended. In an inconspicuous area, a 12" x 12" piece of PROTECT-ALL should be adhered using the appropriate sub-floor preparations

and either the #127 or #139 2-part adhesives. If after 72-hours the 12" x 12" piece is completely bonded, the concrete sub-floor is satisfactory for a PROTECT-ALL installation.

- iii) Rough, uneven, score marked, cracked concrete (as long as it is structurally-sound) should be filled using the appropriate filler. **Fillers and leveling compounds must be of a cementitious type (non-gypsum), must be moisture-, mildew-, and alkali-resistant, and must provide a minimum of 3500 psi.** The type of cementitious leveling compound to use is at the discretion of the installer and end-user. Adhesion tests should be performed when considering what filler/leveler to use (see 3.b.ii).
  - iv) Cement type underlayment boards (minimum ½") can be used under PROTECT-ALL flooring as long as they have been installed according to their manufacturer's full recommendations.
  - v) It is not recommended that PROTECT-ALL be applied over expansion joints.
  - vi) Concrete curing/drying compounds can reduce the adhesion of Oscoda Plastics specified adhesives. Removal of these products is necessary prior to adhering PROTECT-ALL. Adhesion tests must be performed prior to installation (see 3.b.ii).
  - vii) Suspended concrete floors should meet the standard criteria mentioned under 3.b. i-ix.
  - viii) If high Moisture Vapor Emission Rates (MVER), relative humidity levels, or alkalinity levels exist, then a surface-applied vapor reduction system may be needed. If any moisture reduction system is chosen, it must be compatible with Oscoda Plastics' #127 or #139 epoxy adhesives, for which all testing should be done by that system's manufacturer, not Oscoda Plastics. The moisture/vapor barrier's performance and warranty are the responsibility of their manufacturer, end-user, and installer, and not Oscoda Plastics. Adhesion tests are also recommended with these products (see 3.b.ii). One company, Koester – America, will test adhesives and will warranty flooring materials and labor with their product system and specified procedures.
  - ix) Floor drains, of any type and size, should be properly sloped before applying PROTECT-ALL flooring.
  - x) **PROTECT-ALL should never be installed over gypsum-based sub-floors, underlayments, or fillers.**
- c) Radiant-Heated Concrete Floors.**
- i) PROTECT-ALL flooring may be adhered over radiant-heated floors provided the maximum temperature of the floor does not exceed **85°F** (see III.B. 1-9), and maximum water temperature does not exceed 110°F.
- d) Existing Floors – VCT, resilient (any type), polymeric, quarry, marble, terrazzo, epoxy, painted, waxed, sealed, stained, and ALL other existing finished floors.** It is not recommended that PROTECT-ALL flooring be permanently installed (with adhesive) over existing finished flooring of any kind or type. Oscoda Plastics recommends either completely removing the existing flooring down to the sub-floor or applying an appropriate underlayment prior to installation.
- e) Metal Floors** – Metal surfaces require the application of ¾" marine-grade plywood or ½" concrete board prior to the installation of PROTECT-ALL.

#### 4) Layout, Design, and Installation

a) **Tools and Equipment:** The professional installer should have all the standard tools and equipment needed for testing and prepping the sub-floor/underlayment, floor layout, dry fitting, mixing/spreading adhesives, power grooving, heat-welding, and trimming homogeneous vinyl sheet flooring, base, corners, and trim

i) **Unique tools required for PROTECT-ALL flooring:**

- (1) Electric seam groover (Leister<sup>®</sup> or Sinclair<sup>®</sup>1500) – call Oscoda Plastics for details.
- (2) Leister Heat Gun.
- (3) Grooving blades including V-groove for V-rod.
- (4) Heat welding tips: V-weld tip and radius weld tip.
- (5) Skiving trim knife and sharpener.
- (6) Electric Drill
- (7) Yellow straight-cut and aviation/tin snips.
- (8) 1/8" v-notched trowel.
- (9) 2 hp (minimum) wood plunge router with 1/2" straight bit.
- (10) 12" metal framing (speed) square.
- (11) Metal paddle mixer (for the 2-part adhesive).
- (12) Caulking Gun.
- (13) Duct tape.
- (14) Under scribes.
- (15) Hammer.
- (16) Electric hammer drill.

b) **General Guidelines**

- i) ***Oscoda Plastics provides installation classes at its facility in Michigan. Participation and successful completion of this class is recommended prior to any first time wet area installation. For more information call 800-544-9538 or visit [www.oscodaplastics.com](http://www.oscodaplastics.com).***
- ii) **PROTECT-ALL Matte (standard finish)** products are designed for areas exposed to high levels of moisture that require a floor with slip resistance. PROTECT-ALL matt is also designed for high traffic and heavy-impact areas. Wet areas require the full "wet system installation" (see 4.c.iii). The manufacturer recommends PROTECT-ALL installed with the rough side up in areas where people are in their bare feet such as water parks and shower rooms. Call Oscoda Plastics for details. ***NOTE: Oscoda Plastics does not recommend wearing soft neoprene-soled shoes on its flooring.***
- iii) **PROTECT-ALL Gloss** products are designed for "dry areas" only. PROTECT-ALL gloss must be adhered down using the PA #127 or #139 two-part epoxy.
- iv) The installation should not begin until the work of all other trades has been completed. If the job requirements do not permit this, then cover the floor with 3/4" plywood/OSB to protect the sub-floor, adhesive, and PROTECT-ALL flooring before, during, and after installation.
  - (1) PROTECT-ALL flooring is **DIRECTIONAL**. The 5' x 8' and 5' x 5' sheets have arrow stickers on the top of the sheet. Install with these directional arrows all

facing the same direction. Leave directional arrows in place until installation is completed. The 24" square cut tiles have a pen mark on the side of the tile indicating the machine direction. The 5' x 8' and 5' x 5' sheets should be laid out to eliminate four-way corners. A staggered joint is recommended with at least a 12" off set.

- v) **All exterior PROTECT-ALL** installations must be full-adhered using Oscoda Plastics specified adhesives. Standard floor preparations (3.a-e) apply. Temperature changes, sunlight, and adhesive cure rates greatly affect exterior installations. "Tenting" the area to provide constant shading is recommended given the day/night temperature variables. Install no more flooring that can be adhered, heat-welded, and allowed to cure within the same day.
- vi) PROTECT-ALL flooring can be cut using a standard utility knife. To ensure clean straight seams, always use a straight edge and change blades often.
- vii) PROTECT-ALL flooring should be acclimated to the job site for a minimum of 36 hours prior to installation. The building must be completely enclosed and water-tight. A/C must be on at least seven days prior to installation beginning, keeping the interior temperature at 70°F. This temperature should be maintained during the installation and an additional eight days after installation is completed.
- viii) Place curtains over windows and doors to prevent the flooring from being exposed to direct sunlight during the installation. This will help prevent unwanted expansion and contraction prior to the adhesive being fully set and cured.
- ix) PROTECT-ALL installed with the rough side up requires special hand-trimming tools to trim the welding rod after heat-welding. Call Oscoda Plastics for details.
- x) Weights such as sand bags may be needed at drains, transitions, and slopes while the adhesives cure.
- xi) Additional pieces of PROTECT-ALL may be needed under weight lifting and exercise equipment, heavy objects, and tires to help prolong the life of the finished floor.
- xii) The use of duct tape at perpendicular angles across the seams will help ensure that ALL seams (flooring, base, and corners) remain tight during the installation and curing process.

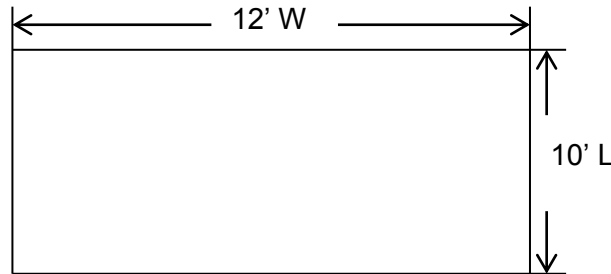
### c) Applications

- i) **Loose-Lay. Before you begin you will need a sharp utility knife, straight edge, pencil, tape measure, and chalk line.**
  - (1) **18" x 18" Interlocking Tile Installation.** The 18" x 18" interlocking tiles should always be installed in a loose-lay fashion and oriented in the same direction following the corner with the arrow. The use of adhesives is not recommended. All standard floor preparations should be followed (see 3.a-e). **NOTE: Interlocking tiles are intended for dry, loose-laid applications and should never be used as a substitute for permanent flooring in any wet area or be permanently adhered or chemically-welded at the joints.**
    - (a) Measure the room and multiply width by the length to find its total area, (e.g. 12' W x 10' L = 120 square feet). Divide the total by 2.25 to get the actual number of tiles needed, (e.g.  $120 \div 2.25 = 53.33$ , round up to 54). A

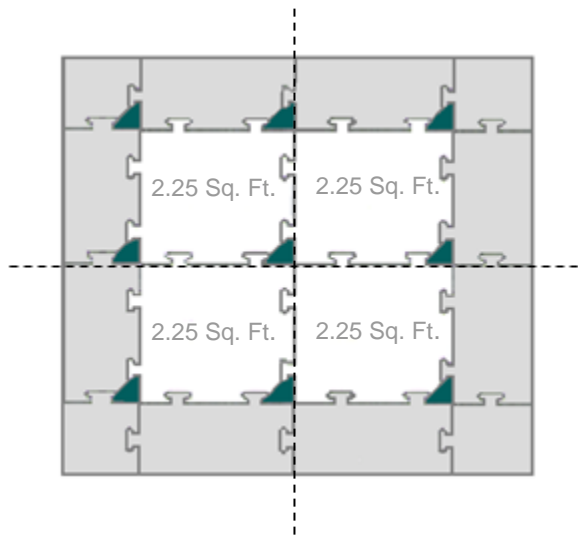


cutting allowance of 7 – 10% should be added for rooms over 100 square feet in size.

- (i) To find how many tiles fit in a row, take the width or length measurement and divide by 1.5 (it is best to round up to the nearest whole number).  
E.g.  $12' \text{ W} \div 1.5 = 8$  tiles for width OR  $10' \text{ L} \div 1.5 = 6.67$  (round up to 7) tiles for length.



- (b) For best appearance, establish how the tiles are to be set out before starting the project. The arrowhead corner orientation must be maintained throughout the installation for proper fit and appearance (see below).



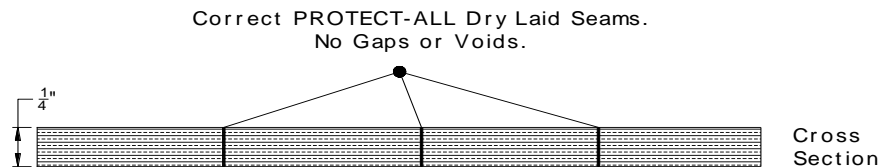
- (c) Find the center point of the room.
  - (i) Measure across the room and mark the center.
  - (ii) Measure the room in the other direction and mark the center.
  - (iii) Snap a chalk line across both center points, the intersection of the two lines (illustrated above as the dotted lines) is the center of the room.
- (d) Begin at the center and work out to each wall. Lay tiles in place until the walls are reached, maintaining the orientation of the arrowhead tile corners.
- (e) Cut-offs from one side of room installation (up to 9" wide, for maximum border width) can be used on the opposite side to fit against perimeter of installation field (see illustration above, border shaded in gray).

- (f) Leave at least a ¼” space at all perimeter walls to allow for expansion and contraction.
- (2) **Gym Floor Covers** – PROTECT-ALL sheets can be used as a temporary cover to protect wood gymnasium flooring.
  - (a) The sheets should be laid out with an off-set joint.
  - (b) Lay the sheets down so that the seams are as tight as possible.
  - (c) Removable double-sided tape may be necessary around perimeter to secure the edges.
  - (d) When not in use, the sheets should be properly stored and uniformly stacked with the edges flat and even.
  - (e) To transport the sheets, custom-made pallets or carts (no more than 30 sheets per pallet/cart) may have to be fabricated by the facility.
- ii) **Full-Adhered – Dry Areas**
  - (1) Dry area applications are typically NOT exposed to moisture, chemicals, or standing liquids. The 5’ x 5’, 5’ x 8’, and 24” tiles should be glued down and heat-welded.
- iii) **Full-Adhered – Wet Areas Application Methods.** Factory training is required. This application requires the full wet area system to be followed. Manufacturer’s sub-floor preparations and requirements must be followed (see 3.a-e). PROTECT-ALL gloss is NOT recommended for exterior applications or interior wet applications.
  - (1) **Radius Weld Method** uses flat stock base of ¼” material and heat-welding them to the floor sheets at the radius transition.
    - (a) **Tools and Materials**
      - (i) Radius Weld Rod
      - (ii) Radius Heat-Weld Tip
      - (iii) Wood router with ¾” straight bit
      - (iv) 8’ Straight Edge
      - (v) Extra sheets of flat stock to cut base
    - (b) Measure the lineal footage of base needed and hand cut enough base out of a 5’ x 8’ sheet to accommodate. One sheet will provide 80 lineal feet if cut at 6” x 8’ – **Image 1.**



1. Use a 5’ x 8’ sheet, cut into 6” x 8’ strips to create 80 lineal feet of cove base

- (c) After sub-floor preparation is completed, determine the best lay out of the floor to avoid the need to use small short pieces at termination points.
- (d) Install the flooring material using factory recommended adhesive, ensuring that ALL horizontal and vertical seams (flooring, base, and corners) and cuts around floor penetrations, perimeter, terminations, etc. fit tight, within 1/16" tolerance at ALL times. Do not allow gapping or voids between the seams. PROTECT-ALL welding rod is not designed to fill voids in seams. Door jams, fixed objects, and floor penetrations, such as plumbing, electrical, and condensation lines, must have PROTECT-ALL cut-in clean and tight.



- (i) The hand cut flat base can be installed immediately over the adhered sheets.
- (ii) Begin installing the base at an inside or outside corner. This is done first because the base must be wrapped around corners in a continuous fashion.
- (iii) In order to wrap corners with the 1/4" material, a relief on the back of the material is required at 1/8" x 3/4" wide. Create this relief by using a wood router with a 3/4" straight bit and a straight edge as a guide – **Image 2.**



2. Make a relief cut 1/8" deep by 3/4" wide.

- (iv) Using the manufacturer's specified adhesive, adhere the base to the wall using a 1/4" bead in an "S" pattern – **Image 3.** A 3" or 4" band of commercial cove base tape and also be used to adhere cove base – **Image 4.**
- (v) Immediately hand-roll the base to smooth and set the adhesive. If using cove base tape, use a rubber hammer to tap cove base against adhesive backing for strongest adhesion – **Image 5.**
- (vi) Seal the top of the base using the manufacturer's specified sealant – **Image 6.**

(vii) Finish by applying the manufacturer's universal Z-bar cove cap – **Image 7.**



3. Adhere using an “S” pattern.



4. Adhere using a 3” or 4” band of commercial cove base tape.



5. Immediately hand-roll or use rubber hammer to set into cove base tape or adhesive.



6. Seal the top of the cove base. Another continuous bead of sealant can adhere to top flange of z-bar if laid  $\frac{1}{2}$ ” –  $\frac{3}{4}$ ” above.



7. Attach Z-bar.

- (e) Once the base is installed, attach the stainless steel outside corner guard to help form and adhere the base at the outside corner.
- (f) Radius welding can begin once the cove base is attached to the wall. **The radius weld is designed to be completed in a single pass, no grooving or skiving required.** Floor seam welding can only begin with the specified adhesive has set. Refer to page 14 for details.
  - (i) Before welding, perform test welds daily to ensure proper calibration of tools and the correct heat-welding method is performed.
    1. Inside and outside corners: 5 – 5 ½ amperage setting with one foot per minute welding speed.
    2. Straight runs: 6 – 6 ½ amperage setting with two feet per minute welding speed.
  - (ii) The angle of the gun should always be 45° to the wall/floor. Additionally the angle of the radius weld tip to the weld rod filling this joint should be closer to 90° when going into and out of inside cove base corners. This angle can be greatly relaxed when doing outside corners and straight welding runs.
  - (iii) During welding always look for the “wash” at the top and bottom of the weld rod and the “wave” of melted rod that is pushed ahead of the rod – **Image 8**. These two things will confirm that the weld is being performed properly.



8. Look for the “wash” and “wave” in the rod.

- (iv) Weld through inside and outside corners first, at the slightly cooler, slower speed, 1 – 2 feet away from the corners. Weld straight runs secondly.
- (g) When splicing the welding rod:
  - (i) Hand cut 1” V-notch splice.

- (ii) Weld the remaining rod into place. Minor trimming and glazing will be required at all splices and be performed after the rod has cooled. Use of a straight edge and hoop trimming tool is recommended.
- (iii) Double-strike and glaze the finish weld as needed.
- (h) **Stainless steel drain rings** are required on ¼" material to be installed around ALL floor drains, floor troughs, floor sinks, cleanouts, and any floor penetration of 3". Stainless steel drain rings can be purchased from Oscoda Plastics using the **Drain Ring Order Form**.
  - (i) Routing for these drain rings should take place prior to adhering the flooring down.
  - (ii) Set the depth of the router (using a straight bit) so that the top of the drain ring is flush with the top of the finished floor. Practice routing on scrap pieces first.
  - (iii) Prior to the final mechanical-fastening, apply a ¼" bead of manufacturer's recommended watertight sealant under the drain ring.
  - (iv) Use #10 2 ½" stainless steel screws with lead anchors to secure the drain rings – **Image 9**.



9. Secure drain ring to substrate. Only use #10 2 ½" stainless steel screws (tapered head) with lead anchors.

- (i) **Stainless steel transition strips** are required at locations where PROTECT-ALL transitions to another flooring type or is terminating.
  - (i) Routing for these should take place prior to adhering the floor down.
  - (ii) Apply a ¼" bead of manufacturer's recommended watertight sealant under the strip.
  - (iii) Use #10 2 ½" stainless steel screws with lead anchors to secure the transition strips.
- (j) **Adhesive:** Adhering PROTECT-ALL can begin after the floor, drain rings, and transition strips have been dry-fitted. Be sure to use Oscoda Plastics specified adhesives for gluing the flooring. Current adhesives used are PA #127, PA #139, and Eclectic 6100. Follow the recommended mixing instructions using a ⅛" v-notch trowel.
  - (i) Mixing should take place over a large disposable tarp.
  - (ii) Always have a bucket of warm soapy water or mineral spirits available for spills and clean-up. Unwanted adhesives on top of PROTECT-ALL must

be removed immediately with the warm soapy water or mineral spirits.

**Dried adhesive cannot be removed.**

- (iii) Roll the floor within 15 minutes using a 100 lbs. roller, and again an hour later. Rolling should begin in the middle of the sheets moving out towards the seams.
  - (iv) Adhesive that is squeezed up through the seams must be clean-up immediately.
  - (v) **ALL seams must remain tight.** The use of duct tape at perpendicular angles across the seams will help ensure this.
  - (vi) The adhesive must be allowed to set according to manufacturer's recommendation before heat-welding can begin.
- (2) **V-Weld Heat Welding Techniques.** Heat-welding should only begin when the adhesive has cured (PA # 127 – 12 hours and PA #139 – 6 hours).
- (a) Use a power seam groover with an Oscoda Plastics approved grooving blade set to 1/16" above the surface of the sub-floor – **Image 10**. Grooving should be performed so that both sides of the seam have been grooved equally and uniformly – **Image 11**.



10. Power groove seam 3/16" deep.

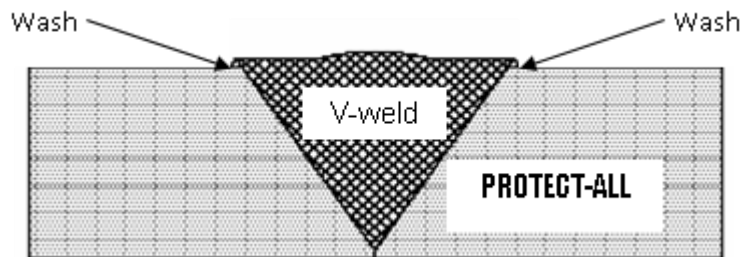


11. Finish groove seam.

- (b) Seams that the power groover cannot reach must be hand-grooved using a utility knife and straight edge. Ensure the hand-grooved seam is of the same depth and width as the power grooved seam.
- (c) Set temperature setting on the hot air welder, fitted with heat-welding tips recommended by Oscoda Plastics. Calibration of the heat gun, amperage

supply, length of the extension cord, and room temperature may affect the proper setting. Practice on scrap material first to test settings.

- (d) Insert Oscoda Plastics V-Rod welding rod into heat-welding tip and begin welding the grooved seams at **1 ½ to 2 linear feet per minute**. Hold the heat-welding gun at the correct angle so that the bottom of the tip remains parallel with the top of the material. Correct heat gun temperature, speed, and pressure must be maintained to correctly heat-weld PROTECT-ALL.
- (i) PROTECT-ALL V-weld Heat-Welding Guidelines:
1. Heat Gun Setting: 6-7 (for Leister Heat Gun).
  2. Welding Speed: Approximately 2 linear feet per minute.
  3. Heat settings and welding speed may vary, always test equipment prior to installation.



- (e) The correct weld will result in a visible “wash” on both sides of the rod where the rod contacts the top of the finished floor – **Image 12**. If the “wash” is not visible, the weld may be defective and could lead to failure. This “wash” will be flattened and alongside it, up to ¼” away, the flooring surface will exhibit fusing (flow). The raised back of the v-weld rod will also show considerable flattening when the right fusing temperature and speed is attained. Observing the fusing at weld tip and flow of the weld rod into v-groove is the best indication that the correct amperage, angle of weld tip, and speed per minute have been reached. The pressure on weld tip, though important to control initial fit and fusing of v-weld rod to v-groove, is not as critical as above three indicators. Careful observance of all these indicators of successful welding will ensure a weld with proper penetration and full fusion inside weld zone and through the full ¼” thickness of the sheet is performed each time.



12. Heat-weld.



- (f) When changing weld direction and overlapping welds, cut a small “V” in the trimmed rod and start welding from the opposite direction until you weld over the “V” for 2-3” and then lift the rod and heat gun away.
- (g) Trim the excess rod while it is still warm – **Image 13.**
  - (i) Trim rod using a standard quarter moon knife.
  - (ii) The rod should be trimmed in one pass, making sure not to remove the flooring surface along with trimming the rod.
  - (iii) The color of the weld rod will lighten after excess has been trimmed.
  - (iv) Hold the heat gun 2-3” away from surface and apply heat until color changes to match sheet color. Over-searing will result in a gloss finish on seam.



13. Skive while V-rod is warm.

- (3) **Cove Cap/Z-Bar.** PROTECT-ALL cove cap, aluminum, or stainless steel is required at the top of the PROTECT-ALL cove base. Both cove caps are designed to be used when the base off-sets the wall by ¼” (applied over wall tile or FRP), or prior to the wall tile or FRP being installed.
  - (a) Prior to applying the cove cap, first seal the top of the cove base with manufacturer’s specified sealant (Eclectic 6100). For both cove caps, the down leg (applied over the base) of an **outside corner** must be continuous wrap.
  - (b) Finish the cove cap by applying a small amount of adhesive to the finished inside and outside corners.
  - (c) **Aluminum Cove Cap** (½” x ½” (45°) x 1”) is designed to be applied either before the wall tile or FRP and base, or after the cove base is attached.
    - (i) The 1” flange faces down over the base unless the cap is being applied ahead of the wall tile or FRP, in which case the 1” flange faces up. In this circumstance, the cap should be secured to the wall using double sided cove base tape and the manufacturer specified sealant. Otherwise, cove cap height must be coordinated with the 6” PROTECT-ALL cove base.
    - (ii) The ½” flange (facing up) that attaches to the wall must have ¼” bead of the manufacturer’s sealant applied to the back prior to securing to the wall – **Image 14.**



14. Seal back of cove cap (aluminum or vinyl) with E6100 before securing to wall.

- (iii) The cove cap should be mechanically-fastened to the wall every 8" – 12" using the appropriate type and size of screw for the wall type – **Image 15**. The screws should penetrate into the wall at least 1".



15. Pre-drill using 1/8" drill bit. Use screws and anchors appropriate for wall type.

- (4) **Stainless Steel Corner Guards.** In high traffic areas, install 4" corner guards on outside to prevent the corners from being impacted and possibly split open.
- (a) Use stainless steel screws to secure and apply Eclectic 6100 to the backside of the guard.
  - (b) Door jams, fixed objects, and floor penetrations, such as plumbing, electrical, and condensation lines, must be sealed by applying Eclectic 6100. Pre-clean the area using denatured alcohol on a clean white rag to remove any dirt or oils prior to applying the Eclectic 6100.

#### 5) **PROTECT-ALL Adhesives**

- a) Oscoda Plastics specified #127 and #139 adhesives are low VOC, solvent-free and non-flammable. They are specifically formulated for use with PROTECT-ALL flooring. They can be used for both porous and non-porous substrates that are below-, on-, and above-grade. They are available in 1 gallon units only. Both adhesives have a one year shelf life and are freeze/thaw stable for up to three cycles.
- b) The adhesives are packaged in separate containers marked Part A and Part B. Empty the complete contents of Part B into Part A. Mix using a rotary motion while at the same time, lifting from the bottom until the entire contents has been mixed thoroughly and the color is uniform (no streaking).
- c) Immediately pour the mixed contents onto the substrate and spread with a 1/8" v-notch trowel.

- d) When applying, the trowel must be held at a 90° angle to the floor for proper adhesive application and coverage.
- e) PROTECT-ALL must be laid into the adhesive immediately.
- f) Using a 100 lbs. roller, roll the floor within the first 15 minutes after the adhesive has been spread, and repeat one hour later. Roll starting in the middle of the sheet, working out toward the seams.
- g) Installation should be free of pedestrian traffic for at least 24 hours. Wheeled carts should not be allowed for seven to eight days.
- h) Never heat-weld seams until the adhesives have cured. See chart below.
- i) Clean up using a cloth rag dampened with warm water while adhesive is still wet. Cured adhesive cannot be removed.

Trowel Notch Size:  $\frac{1}{4}$ " Thick Material  
 $\frac{3}{8}$ " v-notch trowel  
 Coverage Rate: **70-80 Sq. Ft.**

	<b>Working Time*</b>	<b>Heat Weld</b>	<b>Full Traffic</b>
<b>PA #127</b>	30 Minutes	12 Hours	8 Days
<b>PA #139</b>	15 Minutes	6 Hours	8 Days

\*Temperatures above 80° will cause the working time to decrease.

## 6) Maintenance and Care

a) **Heavy grease and high traffic areas. Cleaning procedures for PROTECT-ALL Matte surface (non-gloss) only. NOTE: No matter the flooring type, in high grease and high traffic areas, you cannot "mop" a floor clean. Mop heads can only soak up so much grease and oil before they become useless (2-3 cleaning cycles). After that timeframe, mops only redistribute the same bacteria-filled grease and oil. Therefore, we recommend that you switch to deck brushes and squeegees to remove the soiled solution. Only use clean deck brushes to apply the degreaser/cleaner. NEVER use solvent-based products such as oven cleaner, acetone, lacquer thinner, paint thinner, THF, MEK, etc. to clean PROTECT-ALL products.**

### i) **Tools and Materials Needed**

- (1) Recommended cleaning products: any degreasing type dish soap such as Dawn® or call Oscoda Plastics for details.
- (2) Nylon deck brush (optional weighted brush)
- (3) Hose attached to hot water source
- (4) Large squeegee with flexible vinyl or rubber blade
- (5) Safety glasses
- (6) Protective gloves
- (7) Wet floor signs

### ii) **Optional**

- (1) Circular power floor scrubber with **blue or green** cleaning pads
- (2) Wet vacuum (if floor drains do not exist)
- (3) Power pressure washer (exterior only)

iii) **Cleaning Frequency.** The following cleaning procedure should take place **daily** for **heavy grease** areas and **weekly** for **high traffic** (non-greasy) areas.

iv) **Cleaning Procedure**

- (1) Broom sweep areas to be cleaned first.
- (2) If possible, move equipment away to clean behind hard-to-reach areas.
- (3) Place Wet Floor signs in areas that are being cleaned.
- (4) Apply cleaning agent.
- (5) Firmly deck brush the high grease and high traffic areas first, and then the remainder of the floor.
- (6) Complete with a final clean water rinse (hot water, if available). Remove water with a squeegee.
  - (a) If the floor has a significant buildup of grease and oil, use a power scrubber with a blue or green pad to remove the buildup. If a power scrubber is not available, then steps 1-6 will have to be repeated until all grease, oils, animal fats, dirt, and stains have been removed.
  - (b) If using a pressure washer, do not exceed 180 psi and 200°F.
  - (c) If using a circular floor scrubber, use only the blue or green cleaning pads and **ALWAYS** keep the floor wet while scrubbing. **NEVER DRY SCRUB USING POWER SCRUBBERS.**

**b) Cleaning PROTECT-ALL Gloss products. NOTE: PROTECT-ALL Gloss products have a factory-applied UV-cured urethane coating.** PROTECT-ALL gloss is designed for “dry areas” only and should never be applied in areas that would expect to have moisture or liquids on the floor on a regular basis. PROTECT-ALL gloss products do not require any special buffing, waxing, or cleaning. Light broom sweeping, dusting, dry or damp mopping are all that is needed. **NEVER use solvent-based products such as oven cleaner, acetone, lacquer thinner, paint thinner, THF, MEK, etc., to clean PROTECT-ALL products.**

i) **Tools and Materials Needed**

- (1) Clean cotton mop
- (2) Mop bucket with ringer
- (3) Large floor duster or soft bristle broom
- (4) Wet floor signs, if damp mopping

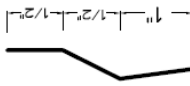
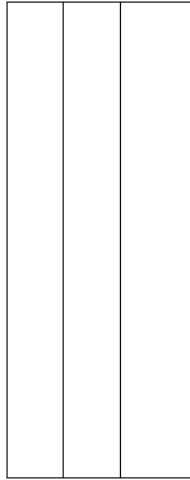
ii) **Cleaning Frequency.** Clean PROTECT-ALL gloss flooring at least once weekly to maintain its natural luster.

iii) **Cleaning Procedure**

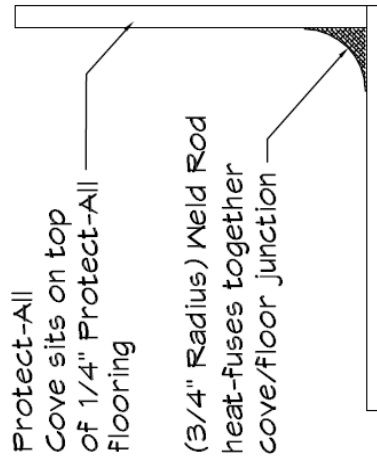
- (1) Use a large floor duster, soft bristle broom or dry mop to clean the floor initially. If there are dried spills, stains, or black heel marks go to step 2.
- (2) Place wet floor signs in areas to be cleaned. Apply a small amount of the cleaning agent to any spill, stain, or black scuff mark first. Continue using a damp mop and bucket to clean the remaining floor. The damp mop must be rung out thoroughly, leaving a minimal amount of liquid on the floor.
- (3) Stubborn black scuff marks can be removed by hand using a clean soft rag and a small amount of cleaning agent.

- (4) The PROTECT-ALL gloss finish is expected to have a 5-10 year wear layer under normal foot traffic conditions and recommended care.

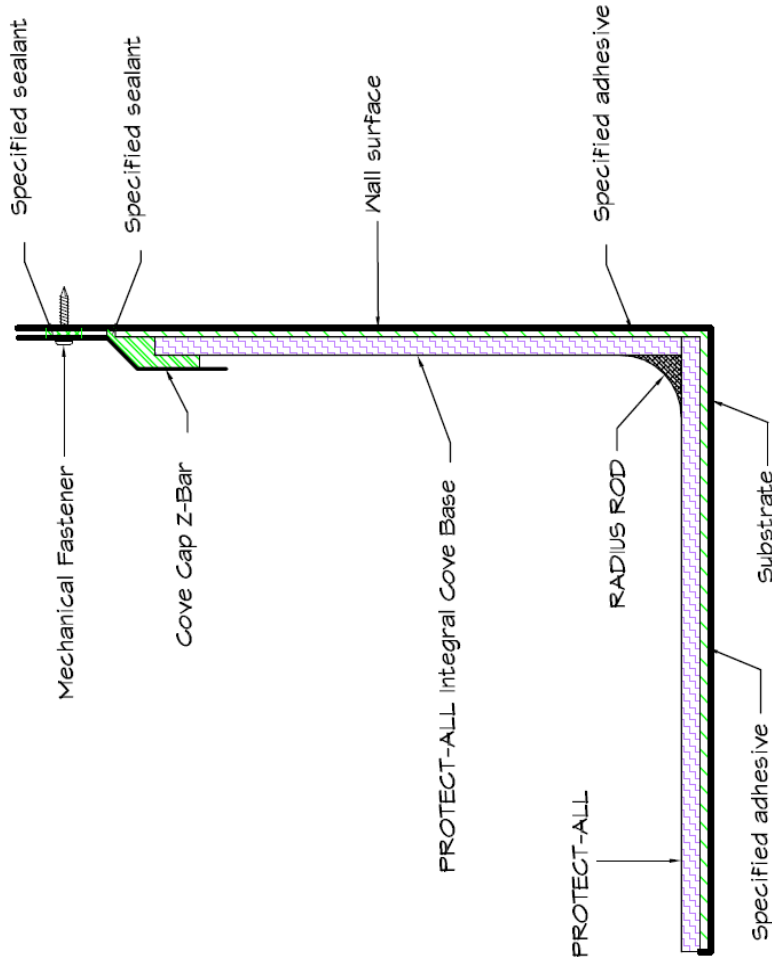
**This installation manual supersedes ALL previous publications.**



.040 Universal Aluminum Cove Cap  
(For 1/8" & 1/4" Cove Base)  
fastened 12" o.c. with specified fastener



**Note:**  
Contact manufacturer for specified adhesives, sealants and fasteners



OSCODA PLASTICS		BY	DATE
DATE	REVISION	GH	3-15-10
8-06-08	ALL NEW	BY	ENG. SER.
3-15-10	ALL NEW	OU	SCALE: NONE
-	-	-	10-0246
-	-	-	-

**PROTECT-ALL®**  
**COMMERCIAL FLOORING**



PROTECT-ALL® FLOORING

OSCODA PLASTICS® SPECIFIED  
ADHESIVE FOR FLOORING MATERIAL

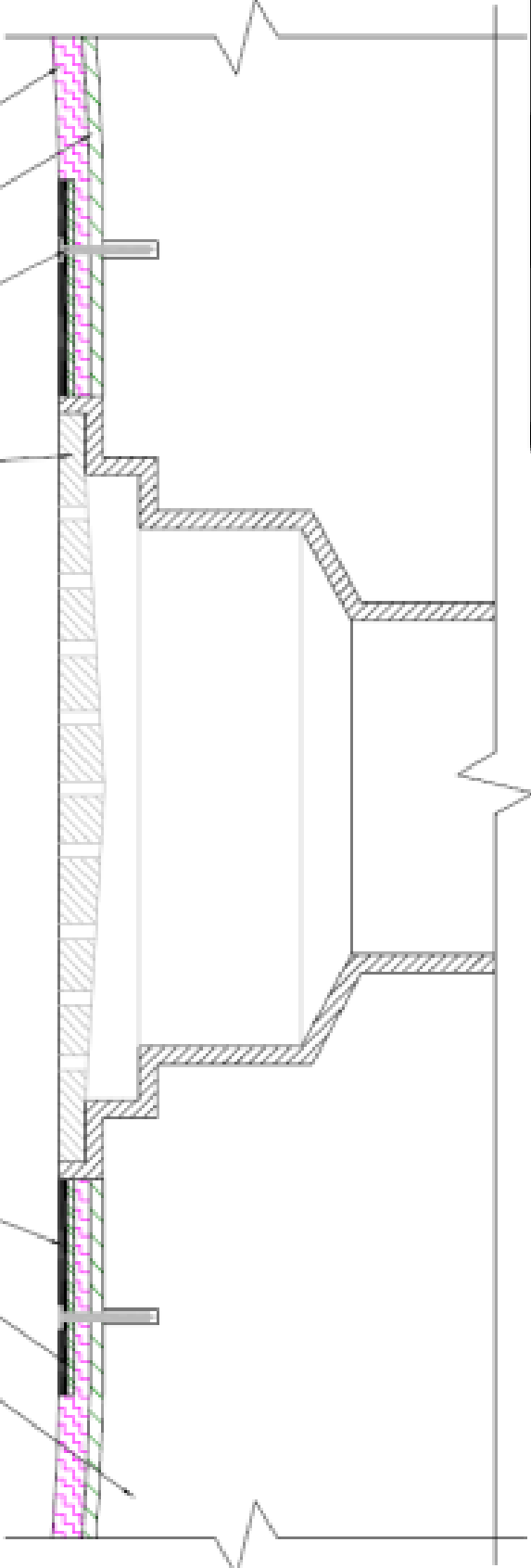
2 1/2" FLAT HEAD #10 STAINLESS STEEL  
FASTENER WITH LEAD ANCHOR

COMMERCIAL FLOOR DRAIN, FLOOR  
SINK, FLOOR TROUGH, OR CLEAN OUT  
(CIRCULAR, SQUARE, RECTANGULAR)

MIN. 3500 PSI CONCRETE

SPECIFIED SEALANT (USED BETWEEN DRAIN  
RING AND PROTECT-ALL FLOORING)

1/8" GAUGE, 2" WIDE, STAINLESS STEEL DRAIN RING. ROUFEER  
OUT THE PROTECT-ALL FLOORING, THE THICKNESS OF  
THE DRAIN RING. INSTALL THE DRAIN RING FLUSH WITH  
THE FINISHED SURFACE OF PROTECT-ALL FLOORING.



FLOOR DRAIN DETAIL

**PROTECT-ALL®**  
COMMERCIAL FLOORING

OSCODA PLASTICS	
DATE	BY
8-5-08	DATE: 2-18-08
-	BY: AF
-	DESIGN: BR. A. PUGH
-	SCALE: NONE
-	-
-	-
-	-
-	08-0148