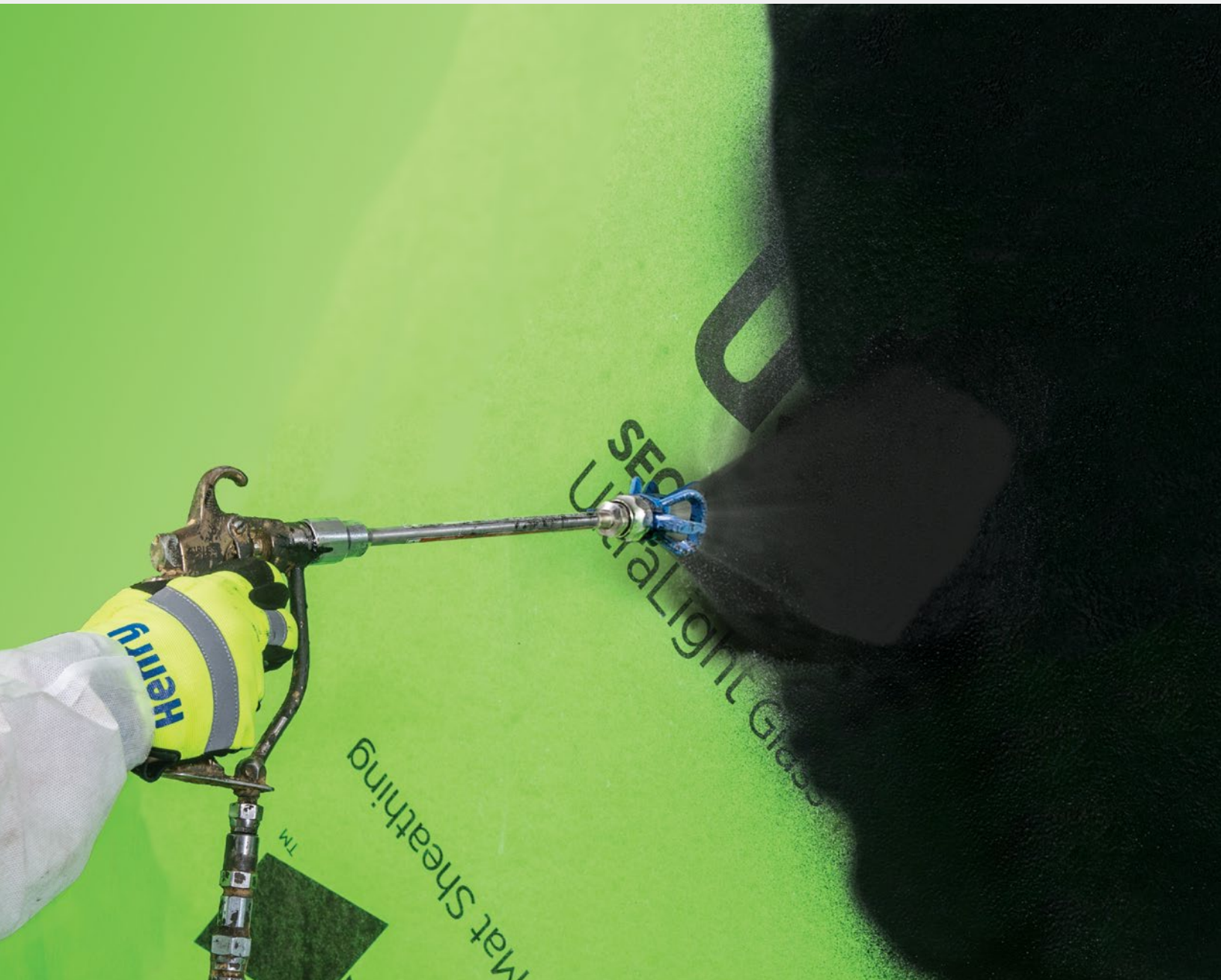


# Henry® Air-Bloc® All Weather STPE™ Fluid Applied Vapor Permeable Air Barrier Installation Manual



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# 1. Introduction

This installation guideline includes materials and installation procedures for Henry Air-Bloc All Weather STPE, a UV resistant fluid applied air barrier membrane meeting the commercial air barrier requirements for the building envelope. Air-Bloc All Weather STPE is used in exterior wall construction to provide an air and rain barrier membrane while allowing the passage of water vapor to avoid risk of condensation build-up in exterior wall assemblies.

Proper placement of Air-Bloc All Weather STPE air barrier membrane within the exterior wall assembly will provide protection against the intrusion of water and uncontrolled air leakage, and will allow the exterior wall assembly to breathe.

# 2. Product descriptions

**Air barrier membrane:** Air-Bloc All Weather STPE is a low VOC, UV and fire-resistant fluid applied, elastomeric membrane designed to provide a vapor permeable, water resistive air barrier when applied to above-grade wall assemblies. It is a single-component, moisture cure STPE (Silyl-Terminated Polyether) polymer which forms a tough monolithic rubber-like membrane resistant to air leakage, water penetration and long-term weathering.

**Flashing:** Henry Air-Bloc LF<sup>®</sup> Liquid-Applied Flashing is a moisture-curing one component elastomeric liquid applied flashing membrane using a highly advanced STPE (Silyl-Terminated Polyether) polymer. It is designed to cure through reaction with airborne moisture to provide a heavy-duty seamless rubber-like membrane with excellent weathering and water resistance.

**Sealant:** Henry 925 BES Sealant is a premium sealant for construction joints subject to dynamic joint movement. It is a one-part, moisture cure, STPE (Silyl-Terminated Polyether) polymer sealant that provides excellent weathering resistance, flexibility, very low VOC and low odor through use of a polymer.

**Optional:** The following flashing and primer options are also available with usage generally based on regional preference.

Henry Blueskin<sup>®</sup> SA/SALT is a self-adhered water resistive air barrier consisting of an SBS rubberized asphalt compound, which is integrally laminated to a blue engineered thermoplastic film surface.

Henry Blueskin Butyl Flash is a self-adhered flashing consisting of a synthetic butyl compound which is integrally laminated to a white engineered polypropylene film surface.

Henry Metal Clad<sup>®</sup> is a self-adhesive composite membrane of rubberized asphalt and dual-layers of high strength polyethylene with surface layer of metallic aluminum film.

Henry Blueskin TWF is a self-adhered through-wall flashing membrane consisting of an SBS rubberized asphalt compound which is integrally laminated to a tough, yellow cross-laminated polyethylene film.

Henry Aquatac<sup>™</sup> Primer is a polymer emulsion-based primer designed to enhance the adhesion of self-adhesive membranes.

### 3. Coverage rates

The following theoretical coverage rate information is intended to help the user calculate the approximate amount of product needed for a project. Actual field requirements may vary according to factors such as application method and surface texture. Absorption rates can vary significantly by substrate (particularly among various brands of exterior gypsum sheathing). A field test application is helpful to verify coverage rates for specific types/brands of substrates specific to project requirements.

Application coverage rates at wet film thickness of 20 mils (typical)			
Product	Substrate	Coverage rate (ft <sup>2</sup> /gallon)	Coverage rate (ft <sup>2</sup> /5 gallons)
Air-Bloc All Weather STPE	Smooth surfaces (gypsum, sheathing and OSB)	60 - 75	300 - 375
	Rough surfaces (CMU and concrete)	40 - 60	200 - 300

**NOTE:** Application rates can vary significantly based on texture and porosity of substrate.

### 4. Application conditions

#### 4.01 Safety

Job site safety is of prime consideration. Coordinate in advance with jobsite supervision to understand and follow all site-specific safety requirements and guidelines. Follow OSHA guidelines for use of tools, scaffolding, harnesses, personal protective equipment, ladders, etc. Be aware of surroundings and interaction with other trades – particularly working overhead.

#### 4.02 Site conditions

##### Surface and weather temperature

Air-Bloc All Weather STPE can be applied at ambient temperatures between 10 °F (-12 °C) and 122 °F (50 °C). When installing Air-Bloc All Weather STPE in temperatures above 90 °F (32 °C), schedule work when substrate is not directly exposed to sun and temperatures are falling to minimize chance of blistering. During cold weather installation, store product at a minimum temperature of 50 °F (10 °C). Air-Bloc All Weather STPE is wash-off resistant and can be exposed to rain within 30 minutes of installation. Air-Bloc All Weather STPE can be applied to a damp surface. Grout injection of CMU walls must occur prior to installation of Air-Bloc All Weather STPE. Air-Bloc All Weather STPE is not designed or intended for exposure to negative side bulk water. Walls to which Air-Bloc All Weather STPE will be applied must be protected at top and backside to prevent water infiltration into the wall cavity behind the installed air barrier assembly.

##### UV exposure

Air-Bloc All Weather STPE is UV resistant behind open joint cladding assemblies where intermittent UV exposure is expected. (Note: Rainscreen cladding assemblies must have gaps no greater than 2" wide.) Air-Bloc All Weather STPE is UV resistant and can be left fully exposed for 12 months during construction.

##### Substrate compatibility

Air-Bloc All Weather STPE is compatible with the following substrates when properly prepared:

- Gypsum sheathing
- Plywood
- CMU
- Concrete
- Pressure treated lumber
- Stainless steel
- Galvanized metal
- OSB

## 5. Surface evaluation

### Gypsum sheathing

Gypsum sheathing boards must be clean, frost-free, serviceable, and properly secured to framing per sheathing manufacturer's requirements and building codes. Sheathing boards that display mechanical or moisture damage, excessive UV exposure, or do not comply with sheathing manufacturer's requirements must be repaired or replaced.

### Plywood/OSB

Plywood/OSB must be clean, frost-free, serviceable, and properly secured to framing per building codes. Plywood/OSB that has been damaged by exposure to moisture (inter-ply delamination/swelling/buckling) must be replaced.

### CMU/concrete

Masonry surfaces including CMU and concrete must be smooth, clean and free of frost, form release and curing compounds, oil, efflorescence, laitance or other contaminants. Surface honeycombs, bug holes greater than ¼" and cracks wider than ⅛" should be repaired using appropriate methods and product(s) such as Air-Bloc LF. Mortar joints must be struck full and flush or lightly tooled and free of fins and mortar droppings. New concrete must cure a minimum of 3 days. Mortar and cementitious repair products must cure a minimum of 24 hours. Injection grouting of CMU must be completed a minimum of 3 days prior to air barrier installation.

## 6. Installation

Protect adjacent surfaces and areas not scheduled to receive air barrier products. Review product technical data and expiration dates and proceed accordingly.

### 6.01 Sheathing joints

Seal exposed raw cut edges of gypsum sheathing with Henry Blueskin Spray Prep Aerosol. At joints up to ¼" wide, install Henry 925 BES sealant and immediately tool sealant into joint and onto adjacent sheathing to form a 2" wide ribbon of sealant (20 mils thick) centered over joint. At joints ¼" - ½" wide, prime sheathing and install 4" wide self-adhered membrane centered over joint. Alternatively, insert non-gassing backer rod into joint so that backer rod is recessed a minimum ¼" below field surface of sheathing. Over the backer rod, install Henry 925 BES sealant and immediately tool sealant into joint and onto adjacent sheathing to form a 2" wide ribbon of sealant (20 mils thick) centered over joint. Alternatively, Blueskin SA/SALT, Blueskin Butyl Flash or Henry Metal Clad may be used in conjunction with primer to seal sheathing joints up to ½" wide. On plywood seams, Blueskin SA/SALT, Blueskin Butyl Flash or Henry Metal Clad with primer is the suggested detailing method due to increased expansion and contraction inherent with plywood. Alternatively on plywood seams, Henry 925 BES sealant can be used at the discretion of others when weather conditions during construction will be relatively stable. Henry 925 BES sealant should be applied at 40 mils thick (rather than 20 mils) when treating plywood seams and as previously described in this section.

### 6.02 Fastener heads

Fasteners securing sheathing must be installed per sheathing manufacturer's requirements and with proper torque resulting in fastener head being flush or slightly recessed from face of sheathing. Fastener heads must not protrude from the face of the sheathing. Countersunk fasteners and unused vacated fastener holes must be sealed and stuck flush using 925 BES sealant. Fastener heads that are installed flush with the face of the sheathing do not require sealant prior to installation of Air-Bloc All Weather STPE.

### 6.03 Inside/outside corners

Sheathing inside and outside corners must be treated in one of the following methods: 1) Blueskin SA/SALT, Blueskin Butyl Flash or Henry Metal Clad strip centered over corner transition using appropriate primer; 2) trowel application of Air-Bloc LF. The detailing products must extend a minimum of 1" onto the field of the wall on both sides adjacent to change-of-plane corner. Prior to detailing with Air-Bloc LF, all cut/raw edges of gypsum sheathing at outside corners must be sealed with Blueskin Spray Prep Aerosol. Inside and outside corners in cast-in-place concrete or laced CMU walls do not require additional detailing at inside/outside corners.

## 6.04 Pipe/duct penetrations

Penetrations can generally be treated in the same manner referenced in inside/outside corners section above, however detailing products must extend a minimum of 2" onto field of wall and pipe/duct component. Penetrations through CMU/concrete must be secured and grouted in place to restrict movement. Electrical conduit must be rigid type at section where air barrier will interface. Metal or rigid PVC pipe shall be clean, free of rust, scale and contaminants. Pipes must be lightly abraded and wiped free of resulting dust prior to detailing.

## 6.05 Floorline deflection joints

Blueskin SA/SALT, Blueskin Butyl Flash or Henry Metal Clad shall be installed at deflection joints using a bellows method of installation. The bellowed portion of the membrane can be either: 1) a convex bellows configuration installed over a protruding backer rod; 2) a concave bellows in which membrane slack is looped into the deflection joint gap.

## 6.06 Control/expansion joints

Control joints up to ¼" wide in sheathing and masonry substrates can be detailed as per Method 1 or 2 of inside/outside corners section above. Control joints wider than ¼" must be treated as per Method 1 only using Blueskin SA/SALT, Blueskin Butyl Flash or Henry Metal Clad. Expansion joints up to ½" wide that are not designed for seismic movement can generally be treated with Blueskin SA/SALT, Blueskin Butyl Flash or Henry Metal Clad installed in a bellowed fashion as referenced in the floorline deflection joint section above. For expansion joints wider than ½" or joints designed for seismic movement, contact the local Henry sales representative or Henry Product Support at 800-486-1278 for project specific consideration and comment.

## 6.07 Through-wall flashing

Install Blueskin TWF at locations where a through-wall flashing is specified or required. Typical locations include connections at metal shelf angles and locations where masonry cladding will be placed directly onto the air barrier assembly such as base of wall and brick ledge. If installing Blueskin TWF onto Air-Bloc All Weather STPE, Aquatac Primer must be used to prime the surface of Air-Bloc All Weather STPE prior to installing the Blueskin TWF. All other typical substrates (masonry, exterior sheathing, wood, metal, etc.) to which Blueskin TWF will be applied must be clean and primed with either Blueskin LVC Adhesive or Aquatac Primer. Install Blueskin TWF per the Henry Technical Data Sheet.

## 6.08 Rough openings

Apply Air-Bloc LF or Blueskin SA/SALT, Blueskin Butyl Flash or Henry Metal Clad at rough openings so that product extends 3" (suggested) into the rough opening and 3" (required) onto the field of the wall adjacent to the rough opening. When using Air-Bloc LF, ensure continuous monolithic coverage at a minimum film thickness of 25 mils on smooth substrates or 40 mils on rough substrates. When using Blueskin SA/SALT, Blueskin Butyl Flash or Henry Metal Clad, ensure substrate is properly prepared and the membrane is thoroughly pressure rolled immediately after installation. Industry-acknowledged best practices installation methods for window flashings can be found in ASTM E2112 Standard Practice for Installation of Exterior Windows, Doors and Skylights.

## 6.09 Field installation of Air-Bloc All Weather STPE

Air-Bloc All Weather STPE can be applied using roller, brush, or spray equipment. Apply Air-Bloc All Weather STPE to field of wall including all surfaces planned to receive the air barrier. Overlap Air-Bloc All Weather STPE on previously installed Henry flashing and detailing products a minimum of 1" to achieve continuity of the air barrier system.

## 6.10 Spray application requirements

Prior to spraying Air-Bloc All Weather STPE, the pump, hose, and gun should be flushed with virgin mineral spirits or naphtha to remove any residual moisture in the delivery system prior to commencing spray application. If other coatings were previously sprayed through the system, the system must be completely cleaned to remove any residual product and subsequently flushed as described above prior to spraying.

When appropriate material temperature and pressure are maintained at gun tip, Henry Air-Bloc All Weather STPE can be sprayed when jobsite temperatures are well below 40° F (see Technical Data Sheet for outside air temperature application range). **Material temperature at the spray tip and fluid pressure at the spray tip during installation determine sprayability of Air-Bloc All Weather STPE in various weather conditions.** A quick-read thermometer can be used to determine the spray tip temperature of the material as it contacts substrate. Spray equipment must be carefully selected based on numerous variables and upon recommendations of the spray equipment manufacturer. The following are suggestions from leading spray equipment manufacturers regarding equipment selection for spraying Air-Bloc All Weather STPE\*.

### **Product Temperature of 70° F and above at Spray Tip**

**Pump:** Capable of supplying a minimum spray tip pressure of 2500 psi. Typically achieved by pump designed for high solids coating that can produce minimum pump pressure of 4000psi such as Graco GH833, 675DI, GH933.

**Hose:** Typical max. total length of 150' consisting of ½" ID hose with optional ⅜" ID whip.

**Gun:** Heavy duty texture mastic gun such as Graco 241705 or contractor grade direct feed gun.

**Tip:** .019-.029

### **Product Temperature of 60-70° F at Spray Tip**

**Pump:** Capable of supplying a minimum spray tip pressure of 3100 psi. Typically achieved by pump designed for high solids coating that can produce minimum pump pressure of 7000 psi such as Graco GH933.

**Hose:** Typical max. total length of 150' consisting of ¼" ID hose with optional ⅜" ID whip.

**Gun:** Heavy duty texture mastic gun such as Graco 241705 or contractor grade direct feed gun.

**Tip:** .019-.029

### **Product Temperature of 50-60° F at Spray Tip**

**Pump:** Capable of supplying a minimum spray tip pressure of 3800 psi. Typically achieved by pump designed for high solids coating that can produce minimum pump pressure of 7000 psi such as Graco GH933.

**Hose:** Typical max. total length of 150' consisting of ½" ID hose with optional ⅜" ID whip.

**Gun:** Heavy duty texture mastic gun such as Graco 241705 or contractor grade direct feed gun.

**Tip:** .019-.029

**NOTE:** The viscosity of Air-Bloc All Weather STPE progressively increases as product temperature decreases thus requiring progressively higher fluid pressure to spray product. At product temperatures lower than 50° F or lower at spray tip, it is generally considered not practical to spray Air-Bloc All Weather STPE. During fluid transfer from the spray pump to the gun tip, the decrease in product temperature and resulting loss of fluid pressure are dependent on numerous variables including hose configuration and project site conditions. Maintaining favorable product temperature at spray tip is key to sprayability in cool/cold jobsite conditions.

Common methods used to maintain favorable product temperature and pressure at gun tip include:

- Storing product in heated area several days prior to use.
- Use of insulated hoses covered with scuff jacket.
- Use of heated enclosure to maintain temperature of pump and material during application.
- Drum/pail band and blanket heaters to condition product.
- Use of ¾" id hose

\*Consult spray equipment manufacturer for specific recommendations regarding spraying high solids coatings such as Air-Bloc All Weather STPE prior to equipment purchase, or for technical field support of spray equipment.

## **7. Clean up**

Clean-up of spray equipment containing uncured STPE material may be accomplished by flushing with virgin mineral spirits. Do not clean equipment with any cleaner or solvent that contains water including some types of recycled or green mineral spirit and paint thinning products. Lower portions of pump often require cleaning by hand to fully remove remnant product. Any cured product must be removed mechanically. Read Safety Data Sheets for cleaning solvents before use. Keep cleaning solvents away from all sources of heat, sparks, flame, lighted smoking materials or any other ignition source. This product cures by reacting with moisture and should not be left in spray guns, pump equipment and hoses for prolonged periods.

## **8. Storage/Shelf life**

Unopened container shelf life is 12 months from date of manufacture when stored in a cool, dry and shaded location. The recommended storage temperature is between 32 °F to 100 °F. For best application results, store product at temperatures above 50 °F (10 °C) for 24 hours prior to installation. Air-Bloc All Weather STPE is not damaged by freezing storage temperatures. Once opened, product remaining in partially used containers has very limited service life due to moisture cure properties.

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