



# STEGO® WRAP 15-MIL

## A "true" VAPOR BARRIER

### ASTM E 1745 Class A-B-C Compliant

#### STEGO® WRAP 15-MIL VAPOR BARRIER

represents a recent breakthrough in state-of-the-art plastic extrusion processes. By combining multi-layer extrusion technology with our proven trade secret blend of prime virgin resins and additives, we at Stego Industries have produced an ASTM E 1745 Class A polyolefin **VAPOR BARRIER**. Stego's emphasis has always been very low permeance (the most important quality according to industry experts). Our latest blend continues to provide next to zero permeance, while exceeding ASTM E 1745 Class A requirements for puncture resistance and tensile strength. All this comes with the same competitive pricing our customers have come to expect.

15  
mil

#### FEATURES & BENEFITS

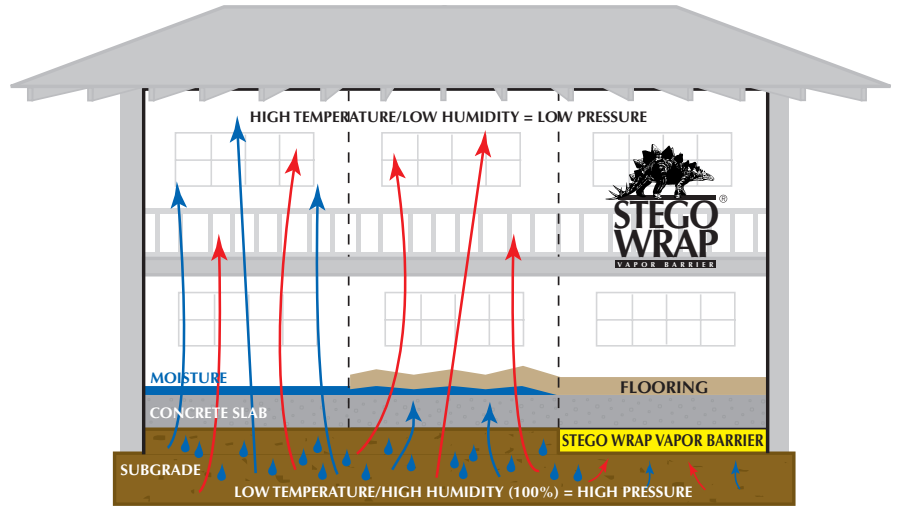
Unsurpassed Permeance  
Characteristics

Life of the Building  
Protection

Exceptional Tear and Puncture  
Resistance

Easy, Reliable Installation

Competitively Priced



Regardless of the location of the water table, humidity below concrete slabs approximates 100%.  
Typical below slab vapor pressure is more than twice that of building interiors at room temperature,  
creating vapor drive from the substrate, up through the slab, and into the building.

#### THE STEGO® ADVANTAGES

##### SUPERIOR DEFENSE Against Floor Failures:

Experts say "[t]he need for a vapor barrier (as opposed to a vapor retarder) is becoming increasingly clear." Concrete Construction Magazine, August 2003, p.18.

Infiltration of moisture through concrete slabs is a major building defect liability. Stego Wrap 15-mil Vapor Barrier has an extremely low water vapor transmission rate (WVTR)(0.006 grains/ft<sup>2</sup>/hour) preventing water vapor, soil gases (i.e. Radon), alkaline salts and soil sulfates from compromising the integrity of the building envelope and leading to serious problems with the concrete slab, floor coverings and indoor air quality. Stego Wrap 15-mil is the best protection against these costly failures.

##### MOLD PREVENTION:

Mold needs three things to survive: moisture, sustained temperature (between 50° and 122° F), and a food source (dust, drywall, etc.). In any given building environment, contractors can only control one of these variables: moisture. Mold spores are present in 100% of building interiors. If moisture is allowed into your building environment, mold can and will grow. Toxic molds like Stachybotrys can be fatal for nearly 5% of people (Institute of Medicine 1993), and cause a variety of serious health problems in others. Several recent well-publicized cases involving toxic mold have resulted in multimillion-dollar insurance settlements. Many of the nation's leading Insurance companies have severely limited or removed coverage for mold claims fearing that these claims will bankrupt their companies. Now more than ever, it is critically important that extra attention be paid to preventing the intrusion of moisture vapor from your below-slab environment. Stego Wrap 15-mil Vapor Barrier offers the level of protection that many architects are now seeking and is considered to be inexpensive insurance against these costly failures.

##### LONGEVITY AND STRENGTH:

Stego Wrap 15-mil Vapor Barrier is NOT made with recycled materials and will not disintegrate. Prime, virgin resins are the key. Molecules within Stego Wrap 15-mil "interlock" to provide strength, durability and unprecedented resistance to moisture vapor and radon gas. Stego Wrap 15-mil's puncture resistance is legendary. Stego Wrap 15-mil will not tear, crack, flake, snag or puncture, even when 18,000 lb. laser-screed machines are driving directly across the barrier. (See the reverse side for Stego Wrap 15-mil Vapor Barrier's specifications)

# STEGO® WRAP 15-MIL SPECIFICATIONS

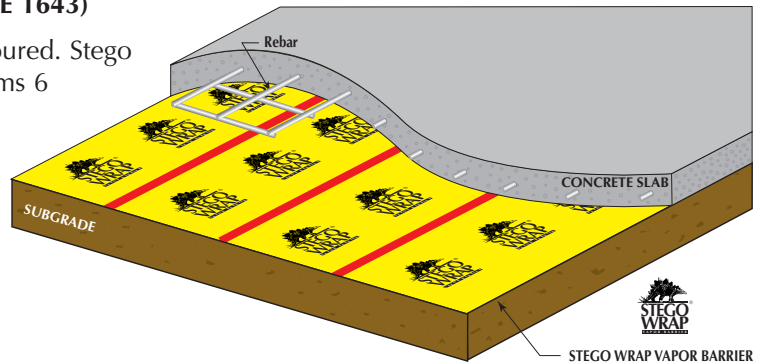
PROPERTIES	TEST METHOD	ASTM E 1745 Class A Requirements	TEST RESULT	EXPLANATION
Permeance	ASTM E 96	0.3 perms	0.012 perms * 0.006 WVTR	Very Impermeable to Water Vapor
Puncture Resistance	ASTM D 1709	2200 grams	Method A 2700 grams Method B 2445 grams	Resistant to puncturing from construction abuse
Tensile Strength	ASTM D 882	45.6 lbf./in.	76.6 lbf./in.	Will not tear easily
Chemical Resistance	ASTM E 154		Unaffected	Acids, alkali and fungi in soil or trace chemicals will not affect membrane
Life Expectancy	ASTM E 154		Indefinite	Will not deteriorate/decompose below concrete slabs when buried
Thickness			15 mils	Stronger, tougher and less permeable than much thicker membranes
Roll Dimensions			14 ft. X 140 ft.	1,960 ft <sup>2</sup> /roll - allows for a minimum of seams
Roll Weight			140 lbs.	Easy to unroll and install

All testing from "production" runs at labs independent of Stego Industries.

\* WVTR water vapor transmission rate

## INSTALLATION INSTRUCTIONS: (Based on ASTM E 1643)

Unroll Stego Wrap over the area where the slab is to be poured. Stego Wrap should completely cover the pour area. Overlap seams 6 inches and tape using Stego Tape. All penetrations and blockouts should be sealed using a combination of Stego Wrap, Stego Tape and/or Stego Mastic. If the Stego Wrap is damaged, cut a rectangular piece from the Stego Wrap roll, place over the damaged area, and tape around all edges. Concrete may be poured directly on the barrier or a sand/gravel base can be used.



### STEGO® TAPE:

**STEGO WRAP RED POLYETHYLENE TAPE** (4" x 180'/roll) is specially designed to seal seams and penetrations on Stego Wrap installations. The rubber-based, pressure-sensitive adhesive provides permanent bonding and quick-stick properties. The area to be bonded should be free of dust, dirt and moisture. If properly installed Stego Tape will provide years of continuous protection.

### WARRANTY: STEGO INDUSTRIES,

LLC believes, to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions and installations are not within our control, STEGO INDUSTRIES, LLC does not guarantee results from use of the information provided and disclaims all liability from any loss or damage. NO WARRANTY EXPRESS OR IMPLIED IS GIVEN AS TO THE MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, OR OTHERWISE WITH RESPECT TO THE PRODUCTS REFERRED TO.

### DISTRIBUTED BY:





# Stego® Wrap 15-mil Class A

## A “true” VAPOR BARRIER

STEGO INDUSTRIES, LLC



**Vapor Retarders**  
**07260, 03300**

**1. Product Name**  
**Stego Wrap 15-mil**  
**Class A Vapor Barrier**

**2. Manufacturer**  
Stego Industries, LLC  
27442 Calle Arroyo, Suite A  
San Juan Capistrano, CA 92675  
Sales, Technical Assistance  
Ph: (877) 464-7834  
Fx: (949) 493-5165  
www.stegoindustries.com

**3. Product Description**  
USES: Stego Wrap 15-mil is used as a true below-slab vapor barrier, and as a protection course for below grade waterproofing applications.  
COMPOSITION: Stego Wrap 15-mil Vapor Barrier is a multi-layer plastic extrusion manufactured with only the highest grade of prime, virgin, polyolefin resins.  
SIZE: Stego Wrap 15-mil comes in rolls 14' x 140' or 1,960 ft<sup>2</sup>  
WEIGHT: Stego Wrap 15-mil rolls weigh approximately 141 lb.

- 4. Technical Data**  
APPLICABLE STANDARDS  
American Society for Testing & Materials (ASTM)
- ASTM E 1745 - Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs
  - ASTM D 882 - Test Methods for Tensile Properties of Thin Plastic Sheeting
  - ASTM D 1709 - Test Methods for Impact Resistance of Plastic Film by Free-Falling Dart Method
  - ASTM E 96 - Test Methods for Water Vapor Transmission of Materials
  - ASTM E 154 - Test Methods for Water Vapor Retarders Used in Contact with Earth under Concrete Slabs, on Walls, or as Ground Cover
  - ASTM E 631 - Terminology of Building Constructions

- ASTM F 1249 - Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor
- ASTM E 1643 - Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs American Concrete Institute (ACI)
- ACI 302.1R-96 Minimum Thickness (10-mils)

**ENVIRONMENTAL FACTORS**  
Stego Wrap 15-mil can be used in systems for the control of soil gases (radon, methane), soil poisons (oil by-products) and sulfates.

**5. Installation**  
UNDERSLAB: Unroll Stego Wrap 15-mil Vapor Barrier over an aggregate, sand or tamped earth base. Overlap all seams a minimum of 6" and tape using Stego Tape. All penetrations must be sealed using a combination of Stego Wrap, Stego Tape and/or Stego Mastic.

VERTICAL WALL: Install Stego Wrap 15-mil Vapor Barrier over the waterproofing membrane while still tacky. Mechanically fasten Stego Wrap to the wall at the top with termination bar and concrete nails. Drape Stego Wrap down across the footer and under the french drain.

**6. Availability & Cost**  
Stego Wrap 15-mil is available

nationally via building supply distributors. For current cost information, contact your local Stego Wrap distributor or Stego Industries' sales department.

**7. Warranty**  
Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

**8. Maintenance**  
None required.

**9. Technical Services**  
Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or via the website:  
www.stegoindustries.com

- 10. Filing Systems**
- SpecSource
  - Stego Industries' website
  - MasterSpec

**TABLE 1: PHYSICAL PROPERTIES OF STEGO WRAP 15-MIL VAPOR BARRIER**

Property & Test	Stego Wrap 15-Mil
Underslab Vapor Retarders, ASTM E 1745 Class A	Exceeds
Water Vapor Permeance, ASTM E 96 & ASTM F 1249	0.012 perms (*0.006 WVTR)
Tensile Strength, ASTM D 882	76.6 lbf./in.
Puncture Resistance, ASTM D 1709	2445 grams
Chemical Resistance, ASTM E 154	Unaffected
Life Expectancy, ASTM E 154	Indefinite

\* WVTR water vapor transmission rate





# Stego® Tape

STEGO INDUSTRIES, LLC



**Vapor Retarders**  
**07260, 03300**

**1. Product Name**  
**Stego Tape**

**2. Manufacturer**

Stego Industries, LLC  
27442 Calle Arroyo, Suite A  
San Juan Capistrano, CA 92675  
Sales, Technical Assistance  
Ph: (877) 464-7834  
Fx: (949) 493-5165  
www.stegoindustries.com

**3. Product Description**

**USES:** Stego Tape is a low permeance tape designed for protective sealing, hanging, seaming, splicing, and patching applications where a highly conformable material is required. It has been engineered to bond specifically to Stego Wrap 10-mil and 15-mil, making it ideal for sealing Stego Wrap seams and penetrations.

**COMPOSITION:** Stego Tape is composed of a high-density polyethylene film and a rubber-based, pressure-sensitive adhesive.  
**SIZE:** Stego Tape comes in 4" wide, 180 ft. long rolls. Stego Tape ships 12 rolls in a case.

**4. Technical Data**

**APPLICABLE STANDARDS**

American Society for Testing & Materials (ASTM)

- ASTM D 1000 Standard Test Method for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications
- ASTM E 1643 - Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs

**5. Installation**

**SEAMS:**

Overlap Stego Wrap 6 inches and seal with Stego Tape. Make sure the area of adhesion is free from dust, dirt and moisture to allow maximum adhesion of the pressure sensitive tape.

**PIPE BOOTS:**

- 1) Cut a piece of Stego Wrap.  
Width: minimum 12"  
Length: 1 1/2 times the pipe circumference
- 2) With scissors, cut slits half the width of the film.
- 3) Wrap boot around pipe and tape onto pipe, completely taping the base to Stego Wrap using Stego Tape.

Stego Tape should be installed above 40 °F

Note: See Stego's installation instructions for complete instructions and detailed drawings. Each user should make their own tests to determine the products



suitability for their own intended use and shall assume all risks and liability in connection therewith.

**6. Availability & Cost**

Stego Tape is available nationally via building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' sales department.

**7. Warranty**

Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

**8. Maintenance**

None required.

**9. Technical Services**

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or by visiting the website: www.stegoindustries.com

**10. Filing Systems**

- Stego Industries' website

**TABLE 1: PHYSICAL PROPERTIES OF STEGO TAPE**

Property	Stego Tape
Total Thickness	8 mils
Permeance	0.23 perms
Tensile Strength	25 lbs./in. width
Elongation (at break)	80%
Adhesion	35-oz./in. width
Ultraviolet Resistance	Excellent





# Stego® Mastic

STEGO INDUSTRIES, LLC



**Vapor Retarders**  
**07260, 03300**

**1. Product Name**  
**Stego Mastic**

**2. Manufacturer**

Stego Industries, LLC  
27442 Calle Arroyo, Suite A  
San Juan Capistrano, CA 92675  
Sales, Technical Assistance  
Ph: (877) 464-7834  
Fx: (949) 493-5165  
www.stegoindustries.com

**3. Product Description**

**USES:** Stego Mastic is designed to be used as a waterproofing and vapor retardant membrane for use in conjunction with Stego Wrap 10-mil and 15-mil Vapor Retarder/Barrier. Stego Mastic can be used as an alternate to boots for pipe penetrations in Stego Wrap Vapor Barrier. Stego Mastic can also be used as a primary waterproofing for below grade walls.

**COMPOSITION:** Stego Mastic is a medium-viscosity, water-based, polymer-modified anionic bituminous/asphalt emulsion, which exhibits bonding, elongation and waterproofing characteristics.

**SIZE:** Stego Mastic comes in 5 gallon buckets.

**4. Technical Data**

**APPLICABLE STANDARDS**

American Society for Testing and Materials (ASTM)

- ASTM 412
- ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
- ASTM G 23 Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials (Withdrawn 2000)
- ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
- ASTM D 751 Standard Test Methods for Coated Fabrics
- ASTM D 1434 Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting

- ASTM C 836 Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course.
- ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.

**5. Installation**

**PREPARATION**

- A test application simulating the project environment should always be done prior to final usage of Stego Mastic.
- All Surfaces should be dry and free of loose materials, oils and other contaminants. The surfaces should be cleaned in the same fashion as the test surface in order to ensure proper results.
- Store above 40°F

**PENETRATIONS**

For small pipe and rebar penetrations in Stego Wrap Vapor Barrier cut Stego Wrap just big enough for the penetration. Liberally apply Stego Mastic around the penetration to keep the integrity of the membrane intact. Stego Mastic can be applied by brush, roller, or sprayer.

**NOTE:** 1: For larger penetrations or wide cut-outs of Stego Wrap, use Stego Wrap and Stego Red Polyethylene Tape to construct boots. 2: Solvent-based products should not be applied over this product.

**CLEANING**

Clean all tools with kerosene and/or oil-based cleaners.

**6. Availability & Cost**

Stego Mastic is available nationally via building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' sales department.

**7. Warranty**

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**8. Maintenance**

None required.

**9. Technical Services**

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or by visiting the website: [www.stegoindustries.com](http://www.stegoindustries.com)

**10. Filing Systems**

- Stego Industries' website

**TABLE 1: PHYSICAL PROPERTIES OF STEGO MASTIC**

Property and Test	Stego Mastic
Tensile, ASTM 412	32 psi / 3860%
Resistance to Decay, ASTM E 154	9% perm loss
Accelerated Aging, ASTM G 23	No Effect
Permeance, ASTM E 96	0.17 Perms
Hydrostatic Water Pressure, ASTM D 751	28 psi
Methane Transmission Rate, ASTM D 1434	0
Adhesion to Concrete & Masonry, ASTM C 836	7 lbf./in.
Hardness, ASTM C 836	85
Crack Bridging, ASTM C 836	No Cracking
Low Temp Flexibility, ASTM C 836	No Cracking at -20°C
<b>Resistance to Acids:</b>	
Acetic	30%
Sulfuric and Hydrochloric	15%
<b>Temperature Effect:</b>	
Stable	248°F
Flexible	13°F





# INSTALLATION INSTRUCTIONS

## STEGO® WRAP VAPOR BARRIER /RETARDER

**IMPORTANT:** Please read these installation instructions completely, prior to beginning any Stego Wrap installation to ensure suitable use of the product. The following installation instructions are based on ASTM E 1643 - Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.

### **UNDER-SLAB INSTRUCTIONS:**

1. Stego Wrap can be installed over an aggregate, sand or tamped earth base. It is not necessary to have a perfectly smooth 1" to 3" sand base, as Stego Wrap is tough enough to withstand rugged construction environments.
2. Unroll Stego Wrap over the area where the slab is to be poured. Stego Wrap should completely cover the pour area. All joints/seams both lateral and butt should be overlapped six inches and taped using Stego Tape.

**NOTE:** The area of adhesion should be free from dust, dirt and moisture to allow maximum adhesion of the pressure sensitive tape.

3. The most efficient installation methodology includes placing Stego Wrap on top of the footing and against the vertical wall. Stego Wrap will then be sandwiched between the footing, vertical wall and poured concrete floor. (See Figure #1). This placement will help protect the concrete slab from external moisture sources after the slab has been poured.
4. **IMPORTANT: ALL PENETRATIONS MUST BE SEALED.** All pipe, ducting, rebar, wire penetrations and blockouts should be sealed using Stego Wrap, Stego Tape and/or Stego Mastic. Individual pipe penetrations should be sealed using a pipe boot constructed of Stego Wrap and Stego Tape (see figure #2 Pipe Penetration Detail). Multiple pipe penetrations in close proximity and very small pipes may be sealed using Stego Wrap and Stego Mastic for ease of installation (see figure #2 Alternate Pipe Penetration).

5. In the event that Stego Wrap is damaged during or after installation, repairs must be made. Cut a piece of Stego Wrap large enough to cover any damage by a minimum overlap of six inches in all directions. Clean all adhesion areas of dust, dirt and moisture. Tape down all edges using Stego Tape. (See Figure #2).
6. Many vapor retarder manufacturers recommend a 3-inch to 6-inch layer of fine washed gravel or sand (cushion layer) on top of the retarder before the pour to guard against the possibility of damage due to the placement of reinforcement and concrete. **This is permissible, but not a necessity with Stego Wrap.** Stego Wrap is strong enough to withstand normal construction traffic without a protective layer. In fact, ACI guidelines and many flooring companies recommend placement of the concrete slab directly on the vapor barrier/retarder. This eliminates the potential for water to be trapped in the blotter layer and ultimately resurfacing through the slab adversely affecting the flooring system.

**NOTE:** There are well-publicized pros and cons regarding different approaches to vapor barrier placement. Consult local building codes and regulations and ACI guidelines along with the design or architectural firm's recommendations before proceeding.

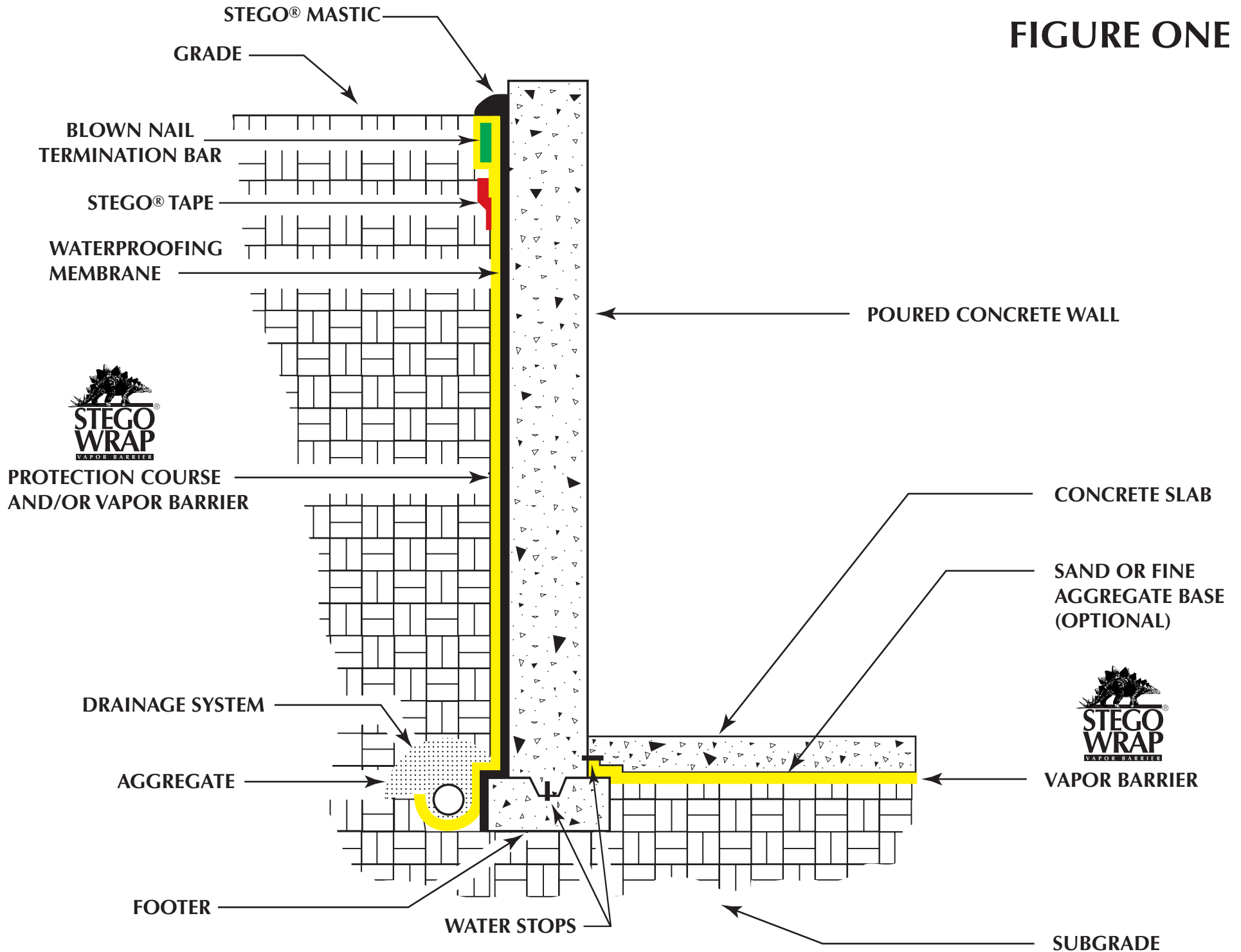
**REMEMBER: If damaged, Stego Wrap must be repaired using the techniques outlined above.**

## **VERTICAL WALL INSTRUCTIONS:**

1. Install an approved waterproofing membrane according to the manufacturer's installation instructions. This may include sheet goods, or liquid applied membranes be they roll, brush or spray.
2. While the membrane is still tacky, install Stego Wrap as a protective course/vapor barrier over the applied waterproofing membrane. Using a termination bar with concrete nails at the termination of the waterproofing membrane is advisable in some applications. (See Figure #1).
3. Supervised care must be taken during back filling against the material so that it is not damaged or punctured. If damage occurs, patch using the techniques outlined above.

**WARNING: Any untreated punctures, tears or damage during back filling will greatly reduce the effectiveness of Stego Wrap as a protection course/vapor barrier.**

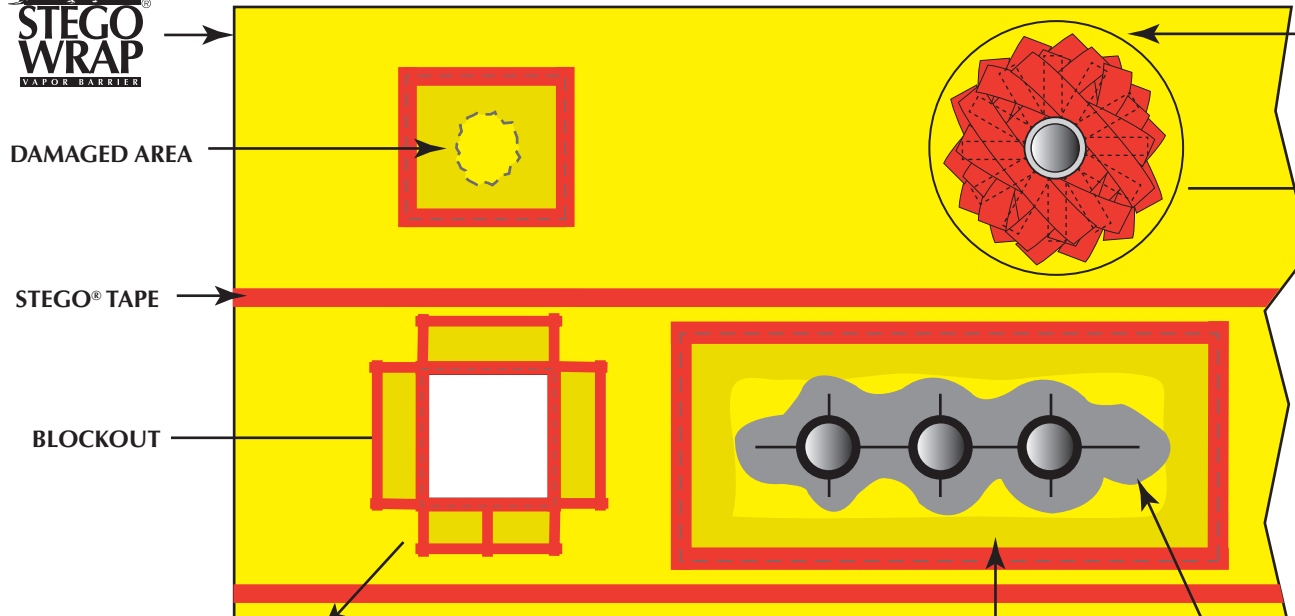
FIGURE ONE



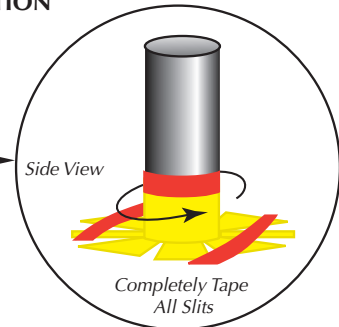


# FIGURE TWO

All patches must cover damaged area by 6" on all sides.



PIPE PENETRATION

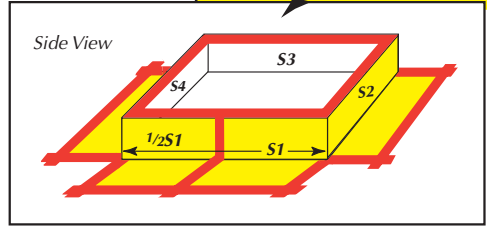
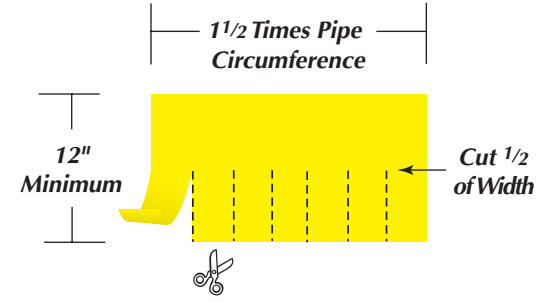
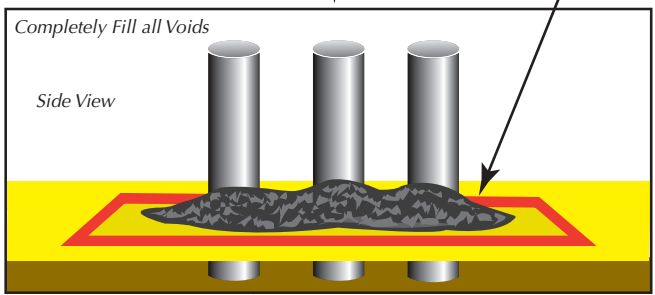


## PIPE PENETRATION CONSTRUCTING A PIPE BOOT FROM STEGO WRAP

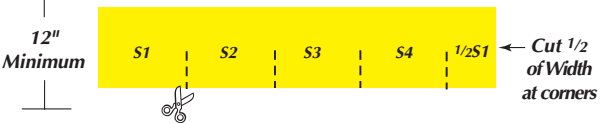
- 1) Cut a piece of Stego Wrap.  
Width: Minimum 12"  
Length: 1 1/2 times the pipe circumference
- 2) With scissors, cut slits half the width of the film.
- 3) Wrap boot around pipe as shown; tape onto pipe and completely taping the base to Stego Wrap barrier using Stego Tape.

PIPE PENETRATION ALTERNATE

STEGO® MASTIC



1 1/8 Times Blockout Perimeter



## BLOCKOUT CONSTRUCTING A BLOCKOUT BOOT FROM STEGO WRAP

- 1) Cut a piece of Stego Wrap.  
Width: Minimum 12"  
Length: 1 1/8 times perimeter of blockout  
• (S1 + S2 + S3 + S4 + 1/2 S1)
- 2) With scissors, cut flaps half the width of the film at the corners of each side of the blockout.
- 3) Wrap the boot around the blockout as shown; tape the overlap, tape the film onto the top of the blockout and completely tape the flaps to Stego Wrap barrier using Stego Tape.

## PIPE PENETRATION ALTERNATE USING STEGO MASTIC TO SEAL PIPES

- 1) Cut out a small area around pipes.
- 2) Cut a patch of Stego Wrap extending at least 6" past the cut out in all directions.
- 3) Cut X's or small circles in the patch and install over pipes.
- 4) Overlap at least 6" and tape with Stego Tape.
- 5) Build up 40-60 mils of mastic, or as needed to completely fill all voids between the pipe and Stego Wrap.
- 6) Allow 24 hours for maximum cure before concrete pour.