

SHOP DRAWING REVIEW FORM AND TRANSMITTAL

DATE: November 18, 2021

TO: Carl Hendrickson
Project Manager
Veolia Water
825 West Water Street
Taunton, MA 02780

FROM: Michael Andrus, P.E.
Project Manager
BETA Group, Inc.
701 George Washington Hwy
Lincoln, Rhode Island 02865

RE: City of Taunton, MA
WWTF Phase 1 Improvements
Contract S-2021-1

Shop Drawing No. 07190-01 – Air and Vapor Barrier

BETA COMMENTS:

<u>Item</u>	<u>Action Code</u>	<u>Description/Comments</u>
1	2	Air and Vapor Barrier (Stego) 1. See attached comments from GHD

Action Codes

- 1 - No Exception Taken
- 2 - Make Corrections Noted
- 3 - Amend and Resubmit
- 4 - Rejected, See Remarks

- a. Installation shall proceed only when Action Code is '1' or '2'.
- b. Submittals action coded '3' shall be resubmitted within time limit set in Contract.
- c. Review does not relieve Contractor from responsibility of compliance with the Contract Documents.



Hart Engineering Corporation

SUBMITTAL:
07190-01

PROJECT: 9900. - Veolia/Taunton WWTF Phase 1 Improvements

DATE: 10/15/2021

SUBMITTAL: 07190-01 - Air and Vapor Barrier

REVISION: 0

STATUS: Eng

SPEC #: 07190

TO:
Michael Andrus
Beta Group Inc.
6 Blackstone Place
Lincoln, RI 02865
MAndrus@BETA-Inc.com

FROM:
Ryan Murphy
Hart Engineering Corporation
800 Scenic View Drive
Cumberland, RI 02864
rmurphy@hartcompanies.com

Item	Revision	Description	Status	Date Sent	Date Returned
07190-01	0	Air and Vapor Barrier	Eng	10/15/2021	
Notes:					

SHOP DRAWING REVIEW	
<input type="checkbox"/> 1 - Approved	<input checked="" type="checkbox"/> 2 - Approved as Noted
<input type="checkbox"/> 3 - Revise and Resubmit	<input type="checkbox"/> 4 - Rejected
<input type="checkbox"/> 5 - Record File Only - No Action Taken	
(Above Check Designates Action Code - See Review Comments)	
IMPORTANT NOTE FOR CONTRACTOR	
Review is only for general compliance with the design concept and information provided in Contract Documents. Corrections and comments made on the Shop Drawings during review do not relieve the Contractor from compliance with the requirements of the plans and specifications. Review and/or approval of a specific item shall not include review or approval of an assembly of which the item is a component. No approval or correction of a Shop Drawing shall be construed as an order for extra work. The Contractor is responsible for: all quantities and dimensions to be confirmed and correlated; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all trades and subcontractors; and performing all Work in a safe and satisfactory manner.	
BETA GROUP, INC.	Checked By: <u>KNH (GHD)</u>
By: <u>MLA</u>	Date: <u>11/18/21</u>

Additional Notes:

Status Codes

- 1-APP - No Exceptions Taken
- 2-ANR - Make Corrections Noted
- 3-R&R - Revise and Resubmit
- 4-REJ - Rejected
- 5-IPO - For Information Purposes Only
- 6-NRR - Not Required for Review
- ENG - Submitted to Engineer

Sincerely,
Hart Engineering Corporation

DATE: 10/15/2021



SUBMITTAL REVIEW COMMENT SHEET

PROJECT TITLE:	Taunton WWTG Phase 1 Improvements		
OWNER:	Town of Taunton, MA		
CONTRACT NO.:		PROJECT NO.:	11186884

SUBMITTAL NO. AND TITLE:	07190-01-Air and Vapor Barrier	<input type="checkbox"/> ACCEPTED <input type="checkbox"/> ACCEPTED AS CORRECTED (NO RESUBMITTAL REQUIRED) <input type="checkbox"/> ACCEPTED AS CORRECTED (RESUBMITTAL REQUIRED) <input checked="" type="checkbox"/> ACCEPTED AS CORRECTED (PROVIDE REQUESTED INFORMATION ONLY)
SPECIFICATION SECTION NO. AND TITLE:	11186884-SPC1	
<input checked="" type="checkbox"/> SHOP DRAWING <input type="checkbox"/> O&M MANUAL <input type="checkbox"/> PRODUCT SAMPLE <input type="checkbox"/> OTHER:	Reviewed only for conformance with the design concept of the project and with information given in the Contract Documents. The Contractor is responsible for: 1) verifying that dimensions are confirmed and correlated at the job site; 2) obtaining information that pertains to the fabrication processes or to techniques of construction; and 3) coordinating the work of all subcontractors.	<input type="checkbox"/> REVISE AND RESUBMIT <input type="checkbox"/> NOT APPROVED <input type="checkbox"/> NOT REVIEWED <input type="checkbox"/> FOR INFORMATION PURPOSES ONLY

By: KNH

Date: 11/5/2021

Comments:

1. Submit the following under separate cover:
 - a. Cold –Applied, Single-Component Waterproofing
 - b. Air and Vapor Barrier (AVB)



Jeremy Boulay
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Contractors Supply Inc.
3340 Pawtucket Ave
East Providence, RI
02915
United States

Project Name Taunton WWTP - Phase I

Package Name 07 19 00, v01

Due Date 13 Oct 2021

Revision # 1

Need By Date 13 Oct 2021

Package type For approval

Full submittal

07 19 00 Water Repellents

#	Sub-section	Item Specified	Source or Mfr	Item Submitted	Notes
0009 - 2.01.A.		10 Mil Sheet Vapor Retarder view spec	Stego	Stego® Wrap 10-mil Class A Vapor Retarder Stego-Wrap-10-mil-Class-A-Vapor-Retarder-Submittal-Sheet-1718539.pdf Stego-Wrap-10-mil-Class-A-Vapor-Retarder-SDS-1712471.pdf Stego-Wrap-10-mil-Class-A-Vapor-Retarder-Environmentally-Responsive-Documentation-1411851.pdf	

Section: 07 19 00 Water Repellents

#: 0009

Specified: 2.01.A., 10 Mil Sheet Vapor Retarder

Reference: [view spec](#)

Item submitted: Stego® Wrap 10-mil Class A Vapor Retarder

Stego-Wrap-10-mil-Class-A-Vapor-Retarder-Submittal-Sheet-1718539.pdf

Stego-Wrap-10-mil-Class-A-Vapor-Retarder-SDS-1712471.pdf

Stego-Wrap-10-mil-Class-A-Vapor-Retarder-Environmentally-Responsive-Documentation-1411851.pdf



STEGO® WRAP 10-MIL CLASS A VAPOR RETARDER

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC 10, 2018

1. PRODUCT NAME

STEGO WRAP 10-MIL CLASS A VAPOR RETARDER

2. MANUFACTURER

Stego Industries, LLC
 216 Avenida Fabricante, Suite 101
 San Clemente, CA 92672
 Sales, Technical Assistance
 Ph: (877) 464-7834
 contact@stegoindustries.com
 www.stegoindustries.com



3. PRODUCT DESCRIPTION

USES: Stego Wrap Class A is used as an exceptional vapor retarder.

COMPOSITION: Stego Wrap Class A is a multi-layer plastic extrusion manufactured with only high grade prime, virgin, polyolefin resins.

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

4. TECHNICAL DATA

TABLE 1: PHYSICAL PROPERTIES OF STEGO WRAP 10-MIL CLASS A VAPOR RETARDER

PROPERTY	TEST	RESULTS
Under Slab Vapor Retarders	ASTM E1745 Class A, B & C – Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs	Exceeds Class A, B & C
Water Vapor Permeance	ASTM F1249 – Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor	0.0254 perms
Permeance After Conditioning (ASTM E1745 Sections 7.1.2 - 7.1.5)	ASTM E154 Section 8, F1249 – Permeance after wetting, drying, and soaking ASTM E154 Section 11, F1249 – Permeance after heat conditioning ASTM E154 Section 12, F1249 – Permeance after low temperature conditioning ASTM E154 Section 13, F1249 – Permeance after soil organism exposure	0.0258 perms 0.0259 perms 0.0241 perms 0.0245 perms
Puncture Resistance	ASTM D1709 – Test Method for Impact Resistance of Plastic Film by Free-Falling Dart Method	3,006 grams
Tensile Strength	ASTM D882 – Test Method for Tensile Properties of Thin Plastic Sheeting	50.6 lbf/in
Thickness		10 mil
Roll Dimensions		width x length: area: 14' x 210' 2,940 ft ²
Roll Weight		140 lb

Note: perm unit = grains/(ft²*hr*in-Hg)

STEGO® WRAP 10-MIL CLASS A VAPOR RETARDER

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC 10, 2018

5. INSTALLATION

UNDER SLAB: Unroll Stego Wrap Class A over an aggregate, sand or tamped earth base. Overlap all seams a minimum of 6 inches and tape using Stego® Tape or Stego® Crete Claw® Tape. All penetrations must be sealed using a combination of Stego Wrap Class A and Stego Accessories.

For additional information, please refer to Stego's complete installation instructions.

6. AVAILABILITY & COST

Stego Wrap Class A is available through our network of building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' Sales Representative.

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 herein. Stego Industries, LLC does offer a limited warranty on Stego Wrap. Please see www.stegoindustries.com/legal.

8. MAINTENANCE

None required.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries or by visiting the website.

Email: contact@stegoindustries.com

Contact Number: (877) 464-7834

Website: www.stegoindustries.com

10. FILING SYSTEMS

- www.stegoindustries.com



(877) 464-7834 | www.stegoindustries.com

DATA SHEETS ARE SUBJECT TO CHANGE. FOR MOST CURRENT VERSION, VISIT WWW.STEGOINDUSTRIES.COM



STEGO® MASTIC

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JUN 27, 2018

1. PRODUCT NAME

STEGO MASTIC

2. MANUFACTURER

Stego Industries, LLC
 216 Avenida Fabricante, Suite 101
 San Clemente, CA 92672
 Sales, Technical Assistance
 Ph: (877) 464-7834
 contact@stegoindustries.com
 www.stegoindustries.com



3. PRODUCT DESCRIPTION

USES: Stego Mastic is designed to be used as a vapor retardant membrane for use in conjunction with Stego® Wrap Vapor Barrier/Retarder. Stego Mastic can be used for sealing utility and pipe penetrations in Stego Wrap.

COMPOSITION: Stego Mastic is a medium viscosity, water-based, polymer-modified anionic bituminous/asphalt emulsion.

SIZE: Stego Mastic comes in 2-gallon or 5-gallon pails, and 20-ounce sausage tubes.

4. TECHNICAL DATA

TABLE 1: PHYSICAL PROPERTIES OF STEGO MASTIC

PROPERTY	TEST	RESULTS
Tensile	ASTM D412	32 psi
Elongation	ASTM D412	3860%
Resistance to Decay	ASTM E154	10% perm loss
Accelerated Aging	ASTM G23	No Effect
Permeance	ASTM E96	0.17 perms
Hydrostatic Water Pressure	ASTM D751	28 psi
Adhesion to Concrete & Masonry	ASTM C836	7 lbf/in
Hardness	ASTM C836	75
Crack Bridging	ASTM C836	No Cracking
Low Temp Flexibility	ASTM C836	No Cracking

Note: perm unit = grains/(ft²*hr*in-Hg)

STEGO® MASTIC

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JUN 27, 2018

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, and apply above 40°F and below 100°F.

PENETRATIONS:

To repair penetrations in Stego Wrap, cut Stego Wrap just big enough to fit over and around the penetration so as to minimize void space. Liberally apply Stego Mastic around the penetration to keep the integrity of the membrane intact. Stego Mastic can be applied from sausage tubes with a standard sausage gun and/or from pails by brush, roller, or trowel.

NOTES: 1) If needed to minimize void space around penetrations, utilize a detail patch of Stego Wrap or Stego® Pre-Cut Pipe Boot to fit over the penetration and seal the patch/boot with Stego® Tape prior to applying Stego Mastic. 2) Solvent-based products should not be applied over this product. 3) Clean all tools with kerosene and/or oil-based cleaners.

For additional information, please refer to Stego's complete installation instructions.

6. AVAILABILITY & COST

Stego Mastic is available through our network of building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' Sales Representative.

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, IMPLIED OR STATUTORY, IS GIVEN AS TO THE MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE WITH RESPECT TO THE PRODUCTS REFERRED TO. Please see www.stegoindustries.com/legal.

8. MAINTENANCE

None required.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries or by visiting the website.

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STEGO® TAPE

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC 10, 2018

1. PRODUCT NAME

STEGO TAPE

2. MANUFACTURER

Stego Industries, LLC
 216 Avenida Fabricante, Suite 101
 San Clemente, CA 92672
 Sales, Technical Assistance
 Ph: (877) 464-7834
 contact@stegoindustries.com
 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, making it ideal for sealing Stego Wrap seams and penetrations.

COMPOSITION: Stego Tape is composed of polyethylene film and an acrylic, pressure-sensitive adhesive.

SIZE: Stego Tape is 3.75" x 180'. Stego Tape ships 12 rolls in a case.

4. TECHNICAL DATA

APPLICABLE STANDARDS:

Pressure Sensitive Tape Council (PSTC)

- PSTC 101 – International Standard for Peel Adhesion of Pressure-Sensitive Tape

American Society for Testing & Materials (ASTM)

- ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs

TABLE 4.1: PHYSICAL PROPERTIES OF STEGO TAPE

PROPERTY	RESULTS
Dimensions	3.75" x 180'
Total Thickness	6 mil
Permeance	0.03 perms
Tensile Strength	17 lb/in
Elongation (at break) MD	1060%
Adhesion (20 min dwell ss, PSTC 101)	84 oz/in
Ultraviolet Resistance	Excellent

Note: perm unit = grains/(ft²*hr*in-Hg)

STEGO® TAPE

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC10, 2018

5. INSTALLATION

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

PIPE PENETRATION SEALING

- 1) Install Stego Wrap around pipe by slitting/cutting material
- 2) If void space around pipe is minimal, seal around base of pipe with Stego Tape (Stego® Mastic can be used for additional coverage)

DETAIL PATCH FOR PIPE PENETRATION SEALING

- 1) Cut a piece of Stego Wrap that creates a 6 inch overlap around all edges of the void space
- 2) Cut an "X" in the center of the detail patch
- 3) Slide detail patch over pipe, secure tightly
- 4) Tape down all sides of detail patch with Stego Tape
- 5) Seal around base of pipe with Stego Tape (Stego Mastic can be used for additional coverage)

Stego Tape should be installed above 40°F. In temperatures below 40°F take extra care to remove moisture or frost from the area of adhesion.

For additional information, please refer to Stego's complete installation instructions.

6. AVAILABILITY & COST

Stego Tape is available through our network of building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' Sales Representative.

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 herein. Stego Industries, LLC does offer a limited warranty on Stego Wrap. Please see www.stegoindustries.com/legal.

8. MAINTENANCE

None required.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries or by visiting the website.

Email: contact@stegoindustries.com

Contact Number: (877) 464-7834

Website: www.stegoindustries.com

10. FILING SYSTEMS

- www.stegoindustries.com

(877) 464-7834 | www.stegoindustries.com

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STEGO® CRETE CLAW® TAPE (3" wide)

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC 10, 2018

1. PRODUCT NAME

STEGO CRETE CLAW TAPE (3" wide)

2. MANUFACTURER

Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
contact@stegoindustries.com
www.stegoindustries.com



3. PRODUCT DESCRIPTION

USES: Stego Crete Claw Tape is a multi-layered tape that is used to seal Stego® Wrap Vapor Barrier to the perimeter of the slab while the concrete is placed. Stego Crete Claw Tape allows wet concrete to cast into the textured top surface to form a mechanical bond/seal.

COMPOSITION: Stego Crete Claw Tape is composed of polyethylene film, aperture film, and an acrylic, pressure-sensitive adhesive.

SIZE: Stego Crete Claw Tape is 3" x 180'. Stego Crete Claw Tape (3" wide) ships 16 rolls in a case.

4. TECHNICAL DATA

TABLE 4.1: PHYSICAL PROPERTIES OF STEGO CRETE CLAW TAPE (3" wide)

PROPERTY	RESULTS
Dimensions	3" x 180'
Total Thickness	26 mil
Permeance: ASTM F1249	0.03 perms
D903	17.6 lbf/in
Shear Adhesion Strength: 1 in ² shear test using an Instron 3345 Machine	>49 lbf/in ² *

* Specimens failed by stretching vapor barrier to failure before pulling Stego Crete Claw Tape from concrete.
Note: perm unit = grains/(ft²*hr*in-Hg)

5. INSTALLATION

SECURING STEGO WRAP TO SLAB: Clean surface of Stego Wrap to ensure that it is free of moisture, frost, dirt, and debris prior to the installation of Stego Crete Claw Tape. When ready to apply Stego Crete Claw Tape, peel back the release liner and apply to Stego Wrap. Stego Crete Claw Tape should be completely on Stego Wrap.

To detail, cut Stego Crete Claw Tape with a box knife or scissors. Stego Crete Claw Tape should be installed above 40°F for maximum adhesion. For additional information please refer to Stego's complete installation instructions.

TIP: Wrap the release liner back over the entire roll while unrolling Stego Crete Claw Tape. This technique will allow the release liner to pull off easily and keep it out of the way.

Continued...

Note – legal notice on page 2.

STEGO® CRETE CLAW® TAPE (3" wide)

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC 10, 2018

6. AVAILABILITY & COST

Stego Crete Claw Tape is available through our network of building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' Sales Representative.

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 herein. Stego Industries, LLC does offer a limited warranty on Stego Wrap. Please see www.stegoindustries.com/legal.

8. MAINTENANCE

Store Stego Crete Claw Tape in a dry and temperate area.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries or by visiting the website.

Email: contact@stegoindustries.com

Contact Number: (877) 464-7834

Website: www.stegoindustries.com

10. FILING SYSTEMS

- www.stegoindustries.com



(877) 464-7834 | www.stegoindustries.com

DATA SHEETS ARE SUBJECT TO CHANGE. FOR MOST CURRENT VERSION, VISIT WWW.STEGOINDUSTRIES.COM



STEGO® CRETE CLAW® TAPE (6" wide)

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC 10, 2018

1. PRODUCT NAME

STEGO CRETE CLAW TAPE (6" wide)

2. MANUFACTURER

Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
contact@stegoindustries.com
www.stegoindustries.com



3. PRODUCT DESCRIPTION

USES: Stego Crete Claw Tape is a multi-layered tape that is used to seal Stego® Wrap Vapor Barrier to the perimeter of the slab while the concrete is placed. Stego Crete Claw Tape allows wet concrete to cast into the textured top surface to form a mechanical bond/seal.

COMPOSITION: Stego Crete Claw Tape is composed of polyethylene film, aperture film, and an acrylic, pressure-sensitive adhesive.

SIZE: Stego Crete Claw Tape is 6" x 180'. Stego Crete Claw Tape (6" wide) ships 8 rolls in a case.

4. TECHNICAL DATA

TABLE 4.1: PHYSICAL PROPERTIES OF STEGO CRETE CLAW TAPE (6" wide)

PROPERTY	RESULTS
Dimensions	6" x 180'
Total Thickness	26 mil
Permeance: ASTM F1249	0.03 perms
180° Adhesion Peel Strength: ASTM D903	17.6 lbf/in
Shear Adhesion Strength: 1 in ² shear test using an Instron 3345 Machine	>49 lbf/in ² *

* Specimens failed by stretching vapor barrier to failure before pulling Stego Crete Claw Tape from concrete.

Note: perm unit = grains/(ft²*hr*in-Hg)

5. INSTALLATION

SECURING STEGO WRAP TO SLAB: Clean surface of Stego Wrap to ensure that it is free of moisture, frost, dirt, and debris prior to the installation of Stego Crete Claw Tape. When ready to apply Stego Crete Claw Tape, peel back the release liner and apply to Stego Wrap. Stego Crete Claw Tape should be completely on Stego Wrap.

To detail, cut Stego Crete Claw Tape with a box knife or scissors. Stego Crete Claw Tape should be installed above 40°F for maximum adhesion. For additional information please refer to Stego's complete installation instructions.

TIP: Wrap the release liner back over the entire roll while unrolling Stego Crete Claw Tape. This technique will allow the release liner to pull off easily and keep it out of the way.

Continued...

Note – legal notice on page 2.

STEGO® CRETE CLAW® TAPE (6" wide)

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC 10, 2018

6. AVAILABILITY & COST

Stego Crete Claw Tape is available through our network of building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' Sales Representative.

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 herein. Stego Industries, LLC does offer a limited warranty on Stego Wrap. Please see www.stegoindustries.com/legal.

8. MAINTENANCE

Store Stego Crete Claw Tape in a dry and temperate area.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries or by visiting the website.

Email: contact@stegoindustries.com

Contact Number: (877) 464-7834

Website: www.stegoindustries.com

10. FILING SYSTEMS

- www.stegoindustries.com



(877) 464-7834 | www.stegoindustries.com

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STEGOTACK® TAPE

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JULY 20, 2018

1. PRODUCT NAME

STEGOTACK TAPE

2. MANUFACTURER

Stego Industries, LLC
 216 Avenida Fabricante, Suite 101
 San Clemente, CA 92672
 Sales, Technical Assistance
 Ph: (877) 464-7834
 contact@stegoindustries.com
 www.stegoindustries.com



3. PRODUCT DESCRIPTION

USES: StegoTack Tape is a double-sided adhesive strip used to bond and seal Stego® Wrap Vapor Barrier to concrete, masonry, wood, metal, and other surfaces. StegoTack Tape is a flexible and moldable material to allow for a variety of applications and installations.

COMPOSITION: StegoTack Tape is made from a blend of synthetic rubber and resins.

SIZE: StegoTack Tape is 2" x 50'. StegoTack Tape ships 12 rolls in a case.

4. TECHNICAL DATA

TABLE 4.1: PHYSICAL PROPERTIES OF STEGOTACK TAPE

PROPERTY	RESULTS
Dimensions	2" x 50'
Total Thickness	30 mil
Permeance (30 mil)	0.03 perms
Color	Grey
Material	Synthetic rubber blend
Adhesion to Steel	12.5 lb/in width ASTM D1000
Installation Temperature	40°F/110°F
In Service Temperature Range	-20°F/+140°F
VOC Content	No VOCs, 100% solids

Note: perm unit = grains/(ft²*hr*in-Hg)

5. INSTALLATION

TO WALLS: Make sure the area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion. Remove release liner on one side and stick to desired surface. When ready to apply Stego Wrap, remove the exposed release liner and press Stego Wrap firmly against StegoTack Tape to secure.

Cut StegoTack Tape using a utility knife or scissors. Cut StegoTack Tape before removing the release liner for easier cutting. Install StegoTack Tape between 40°F and 110°F. For additional information please refer to Stego's complete installation instructions.

Continued...

Note – legal notice on page 2.

STEGOTACK® TAPE

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JULY 20, 2018

6. AVAILABILITY & COST

StegoTack Tape is available through our network of building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' Sales Representative.

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 herein. Stego Industries, LLC does offer a limited warranty on Stego Wrap. Please see www.stegoindustries.com/legal.

8. MAINTENANCE

For longer adhesive life, store in dry, temperate area.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries or by visiting the website.

Email: contact@stegoindustries.com

Contact Number: (877) 464-7834

Website: www.stegoindustries.com

10. FILING SYSTEMS

- www.stegoindustries.com



(877) 464-7834 | www.stegoindustries.com

DATA SHEETS ARE SUBJECT TO CHANGE. FOR MOST CURRENT VERSION, VISIT WWW.STEGOINDUSTRIES.COM



STEGO® TERM BAR

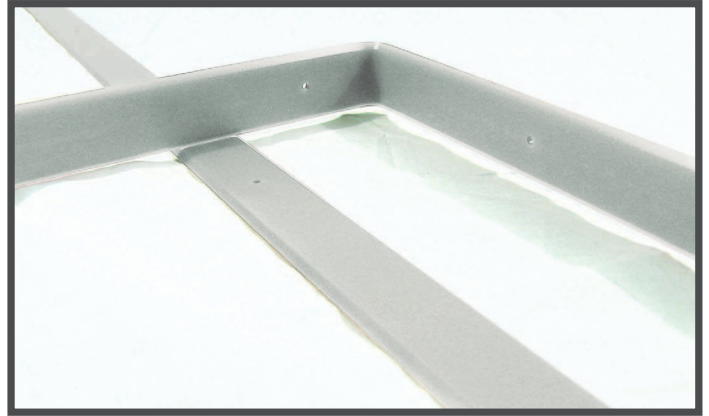
A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC 10, 2018

1. PRODUCT NAME

STEGO TERM BAR

2. MANUFACTURER

Stego Industries, LLC
 216 Avenida Fabricante, Suite 101
 San Clemente, CA 92672
 Sales, Technical Assistance
 Ph: (877) 464-7834
 contact@stegoindustries.com
 www.stegoindustries.com



3. PRODUCT DESCRIPTION

USES: Stego Term Bar is a semi-flexible plastic termination bar used for mechanically securing Stego® Wrap or other materials to concrete, masonry, or wood.

COMPOSITION: Stego Term Bar is made from post-industrial recycled PVC.

SIZE: Stego Term Bar is 4' x 1.125".

4. TECHNICAL DATA

TABLE 4.1: PHYSICAL PROPERTIES OF STEGO TERM BAR

PROPERTY	RESULTS
Dimensions	4' x 1.125"
Color	Grey
Material	Recycled PVC
Weight	4.7 oz

5. INSTALLATION

UNDER SLAB: Nail through Stego Term Bar and Stego Wrap to secure material as needed. If the beveled edge is facing the wall, a pocket/lip is created for mastic/sealant to be used if required. Pre-drilled nail holes are provided every 6" for ease of installation.

To cut Stego Term Bar, score with a utility knife or wire snips. Stego Term Bar can be bent back and forth and then broken at desired locations as well.

Stego Term Bar is flexible enough to bend around corners and contours in the wall for easy installation.

For additional information, please refer to Stego's complete installation instructions.

STEGO® TERM BAR

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: DEC 10, 2018

6. AVAILABILITY & COST

Stego Term Bar is available through our network of building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' Sales Representative.

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 herein. Stego Industries, LLC does offer a limited warranty on Stego Wrap. Please see www.stegoindustries.com/legal.

8. MAINTENANCE

Store above 60°F. Term Bar will become less flexible at lower temperatures.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries or by visiting the website.

Email: contact@stegoindustries.com

Contact Number: (877) 464-7834

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10. FILING SYSTEMS

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STEGO® PRE-CUT PIPE BOOTS

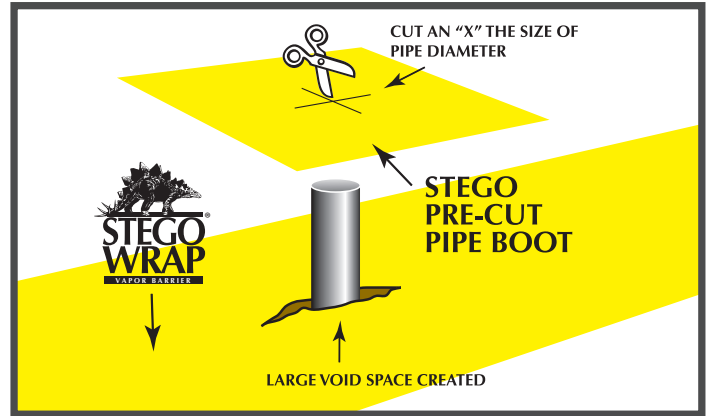
A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JULY 20, 2018

1. PRODUCT NAME

STEGO PRE-CUT PIPE BOOTS

2. MANUFACTURER

Stego Industries, LLC
 216 Avenida Fabricante, Suite 101
 San Clemente, CA 92672
 Sales, Technical Assistance
 Ph: (877) 464-7834
 contact@stegoindustries.com
 www.stegoindustries.com



3. PRODUCT DESCRIPTION

USES: Stego Pre-Cut Pipe Boots are used to seal around permanent penetrations in Stego® Wrap.

COMPOSITION: Stego Pre-Cut Pipe Boots are made from Stego Wrap Vapor Barrier (15-mil), and therefore are manufactured from only high grade prime, virgin, polyolefin resins.

SIZE: Stego Pre-Cut Pipe Boots are 18" x 18" and 15 mil thick. Stego Pre-Cut Pipe Boots ship 10 packs of 25 in a case (250 boots per case).

4. TECHNICAL DATA

TABLE 1: PHYSICAL PROPERTIES OF STEGO PRE-CUT PIPE BOOTS

PROPERTY	TEST	RESULTS
Under Slab Vapor Retarders	ASTM E1745 Class A, B & C- Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs	Exceeds Class A, B & C
Water Vapor Permeance	ASTM F1249 – Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor	0.0086 perms
Permeance After Conditioning [ASTM E1745 Sections 7.1.2 - 7.1.5]	ASTM E154 Section 8, F1249 – Permeance after wetting, drying, and soaking ASTM E154 Section 11, F1249 – Permeance after heat conditioning ASTM E154 Section 12, F1249 – Permeance after low temperature conditioning ASTM E154 Section 13, F1249 – Permeance after soil organism exposure	0.0098 perms 0.0091 perms 0.0097 perms 0.0095 perms
Puncture Resistance	ASTM D1709 – Test Method for Impact Resistance of Plastic Film by Free-Falling Dart Method	2,266 grams
Tensile Strength	ASTM D882 – Test Method for Tensile Properties of Thin Plastic Sheeting	70.6 lbf/in
Thickness		15 mil
Pipe Boot Dimensions		width x length: 18" x 18"

Note: perm unit = grains/(ft²*hr*in-Hg)

5. INSTALLATION

UNDER SLAB: Cut an "X" the size of the pipe diameter in the center of the Pre-Cut Pipe Boot and slide tightly over pipe. Tape all sides of the pipe boot with Stego® Tape. Seal around the base of the pipe using Stego Tape and/or Stego® Mastic.

For additional information, please refer to Stego's complete installation instructions.

Continued...

Note – legal notice on page 2.

STEGO® PRE-CUT PIPE BOOTS

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JULY 20, 2018

6. AVAILABILITY & COST

Stego Pre-Cut Pipe Boots are available through our network of building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' Sales Representative.

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 herein. Stego Industries, LLC does offer a limited warranty on Stego Wrap. Please see www.stegoindustries.com/legal.

8. MAINTENANCE

None required.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries or by visiting the website.

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Contact Number: (877) 464-7834

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10. FILING SYSTEMS

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STEGO® WRAP VAPOR BARRIER/RETARDER INSTALLATION INSTRUCTIONS

IMPORTANT: Please read these installation instructions completely, prior to beginning any Stego Wrap installation. The following installation instructions are based on ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs. If project specifications call for compliance with ASTM E1643, then be sure to review the specific installation sections outlined in the standard along with the techniques referenced in these instructions.

UNDER-SLAB INSTRUCTIONS:

FIGURE 1: UNDER-SLAB INSTALLATION

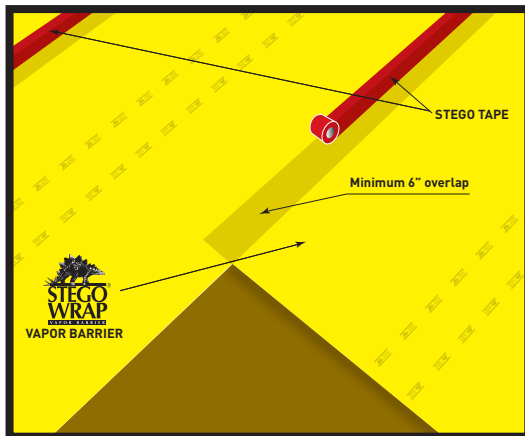


FIGURE 2a: SEAL TO SLAB AT PERIMETER

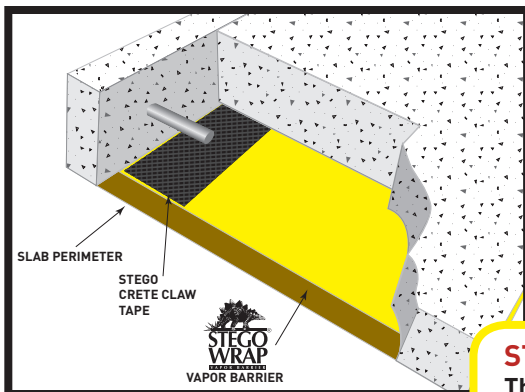
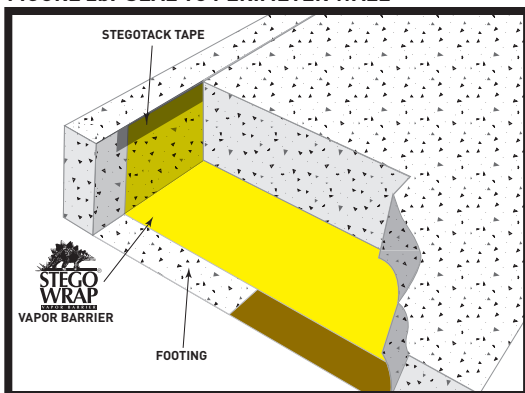


FIGURE 2b: SEAL TO PERIMETER WALL



1. Stego Wrap can be installed over an aggregate, sand, or tamped earth base. It is not necessary to have a cushion layer or 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 placed. Stego Wrap should completely cover the concrete placement area. All joints/seams both lateral and butt should be overlapped a minimum of 6" and taped using Stego® Tape.

NOTE: The area of adhesion should be free from dust, dirt, moisture, and frost to allow maximum adhesion of the pressure-sensitive tape.
3. ASTM E1643 requires sealing the perimeter of the slab. *Extend vapor retarder over footings and seal to foundation wall, grade beam, or slab at an elevation consistent with the top of the slab or terminate at impediments such as waterstops or dowels.* Consult the structural engineer of record before proceeding.

SEAL TO SLAB AT PERIMETER:*

NOTE: Clean the surface of Stego Wrap to ensure that the area of adhesion is free from dust, dirt, moisture, and frost to allow maximum adhesion of the pressure-sensitive adhesive.

- a. Install Stego® Crete Claw® Tape on the entire perimeter edge of Stego Wrap.
- b. Prior to the placement of concrete, ensure that the top of Stego Crete Claw Tape is free of dirt, debris, or mud to maximize the bond to the concrete.

STEGO LABOR SAVER!

This method not only complies with ASTM E1643, but it also:

- reduces labor compared to other perimeter sealing techniques.
- can be used even without an existing wall or footing, unlike alternatives.

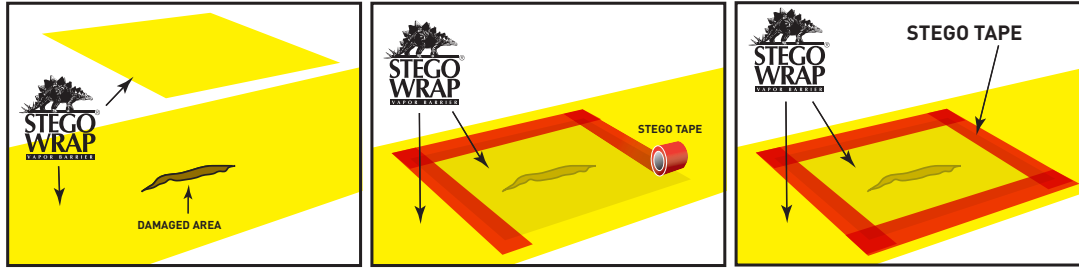
OR SEAL TO PERIMETER WALL WITH STEGOTACK® TAPE:*

- a. Make sure area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion.
- b. Remove release liner on one side and stick to desired surface.
- c. When ready to apply Stego Wrap, remove the exposed release liner and press Stego Wrap firmly against StegoTack Tape to secure.

* If ASTM E1643 is specified, consult with project architect and structural engineer to determine which perimeter seal technique should be employed for the project.

- In the event that Stego Wrap is damaged during or after installation, repairs must be made. For holes, cut a piece of Stego Wrap to a size and shape that covers any damage by a minimum overlap of 6" in all directions. Clean all adhesion areas of dust, dirt, moisture, and frost. Tape down all edges using Stego Tape (See Figure 3).

FIGURE 3: SEALING DAMAGED AREAS

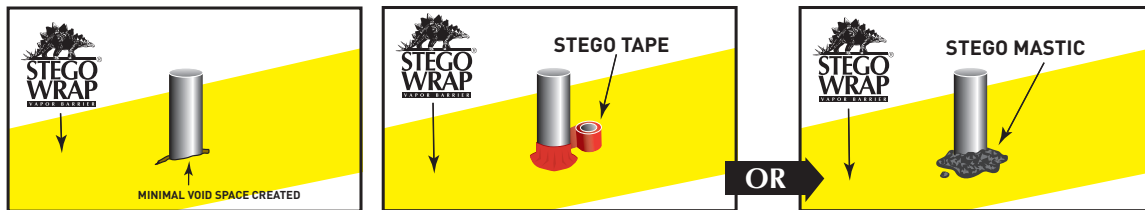


BEAST

NOTE: Stego Industries recommends the use of vapor barrier-safe concrete accessories, like Beast® Screed, to help minimize the amount of penetrations in a Stego Wrap Installation.

- IMPORTANT: ALL PENETRATIONS MUST BE SEALED.** All pipe, ducting, rebar, wire penetrations and block outs should be sealed using Stego Wrap, Stego Tape and/or Stego Mastic (See Figure 4a). If penetrations are encased in other materials, such as expansive materials like foam, unless otherwise specified, Stego Wrap should be sealed to the underlying penetration directly.

FIGURE 4a: PIPE PENETRATION SEALING



STEGO WRAP PIPE PENETRATION REPAIR DETAIL:

- 1: Install Stego Wrap around pipe penetrations by slitting/cutting material as needed. Try to minimize the void space created.
- 2: If Stego Wrap is close to pipe and void space is minimized then seal around pipe penetration with Stego Tape and/or Stego Mastic. (See Figure 4a)
- 3: If detail patch is needed to minimize void space around penetration, then cut a detail patch to a size and shape that creates a 6" overlap on all edges around the void space at the base of the pipe. Stego Pre-Cut Pipe Boots are also available to speed up the installation.
- 4: Cut an "X" the size of the pipe diameter in the center of the pipe boot and slide tightly over pipe.
- 5: Tape down all sides of the pipe boot with Stego Tape.
- 6: Seal around the base of the pipe using Stego Tape and/or Stego Mastic. (See Figure 4b)

FIGURE 4b: DETAIL PATCH FOR PIPE PENETRATION SEALING

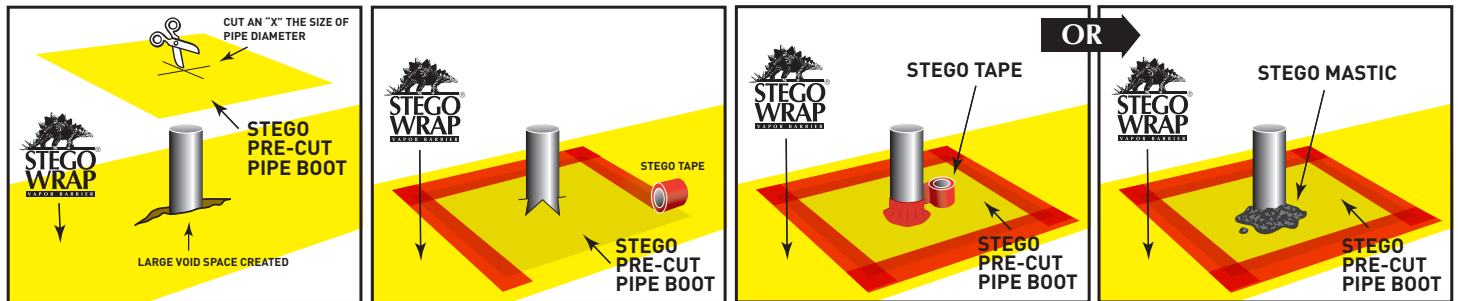
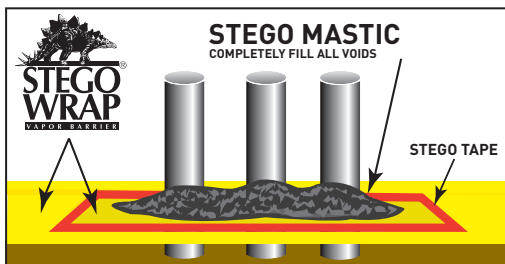


FIGURE 5: MULTIPLE PIPE PENETRATION SEALING



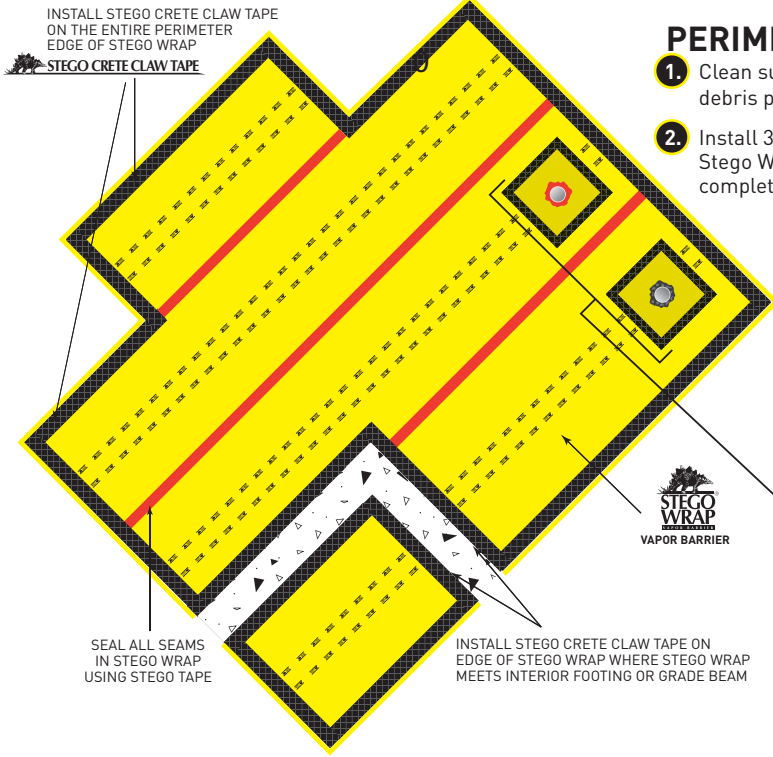
MULTIPLE PIPE PENETRATION SEALING:

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 5).

NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs*. These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.



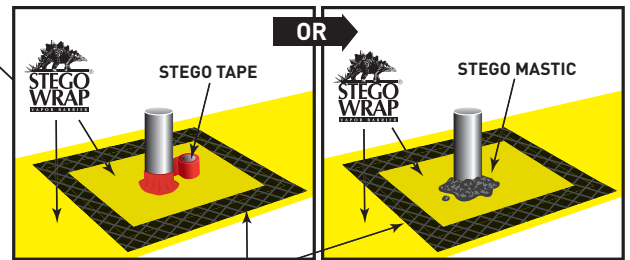
STEGO® CRETE CLAW® TAPE INSTALLATION INSTRUCTIONS



PERIMETER SEAL TO SLAB

1. Clean surface of Stego Wrap to ensure that it is free of moisture and debris prior to the installation of Stego Crete Claw Tape.
2. Install 3" or 6" Stego Crete Claw Tape on the entire perimeter of the Stego Wrap installation. Stego Crete Claw Tape should be completely on Stego Wrap.

SEAL ALL PENETRATIONS WITH STEGO TAPE AND/OR STEGO MASTIC. STEGO CRETE CLAW TAPE IS NOT MEANT FOR REPAIRING PENETRATIONS.



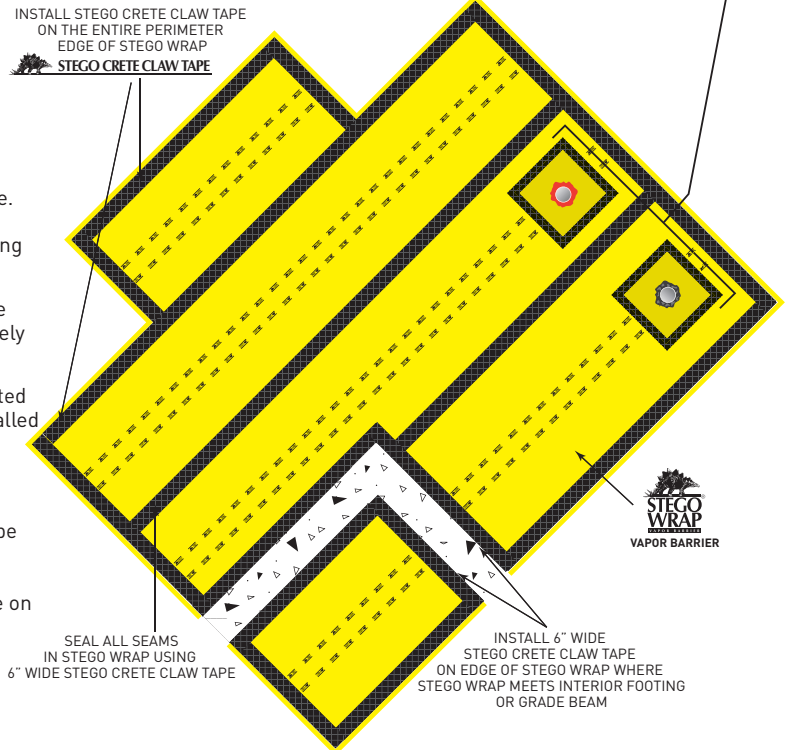
STEGO CRETE CLAW TAPE CAN BE USED TO SEAL SEAM AROUND DETAIL PATCH FOR ADDED PROTECTION.

SECURING STEGO WRAP TO THE BOTTOM OF THE SLAB

1. Clean surface of Stego Wrap to ensure that it is free of moisture and debris prior to the installation of 6" wide Stego Crete Claw Tape.
2. Overlap seams a minimum of 6". Seal all seams in Stego Wrap using Stego Crete Claw Tape.
3. Install 6" wide Stego Crete Claw Tape on the entire perimeter of the Stego Wrap Installation. Stego Crete Claw Tape should be completely on Stego Wrap.
4. Install additional Stego Crete Claw Tape if required. Lab and simulated field tests have shown that if 6" wide Stego Crete Claw Tape is installed on all seams and around the perimeter, then it is more than strong enough to support Stego Wrap. If determined by the architect or engineer, additional Stego Crete Claw Tape may be specified.
5. Prior to the placement of concrete, ensure that Stego Crete Claw Tape is free of dirt or debris to ensure maximum bond to the concrete.

These are general instructions. Installation requirements may change on a project-by-project basis.

IMPORTANT - For the application of securing Stego Wrap to the bottom of the slab, always use 6" wide Stego Crete Claw Tape.



NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs*. These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.



Revision Date: July 30, 2018 | Date of Issue: February 23, 2017 | Version Number: 4.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Name: Stego Wrap

Intended Use of the Product

Under-slab and below-grade water vapor barrier

Company Name, Address, and Telephone of the Responsible Party

Stego Industries, LLC
216 Avenida Fabricante #101
San Clemente, CA 92672 USA

Emergency Telephone Number

Emergency Number: 1 (800) 424-9300 (24 Hrs.) CHEMTREC

Main Contact Number: (877) 464-7834

SECTION 2: HAZARDS IDENTIFICATION

Potential Health Effects:

Hazard Information: None as defined under OSHA Hazard Communication Standard: 29 CFR Part 1910.1200.

GHS Classification: Not classified/not a dangerous substance per Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

GHS Labeling: No Label elements required/not a dangerous substance per Globally Harmonized System of Classification and Labeling of chemicals (GHS).

Inhalation: Inhalation of this product is not a likely route of exposure at room temperature. In the case of critical situations (i.e. fire, overheating, or combustion) excessive inhalation of fumes may result in respiratory irritation.

Skin: This product is not likely to be hazardous by skin contact under recommended conditions of use. Molten product may cause thermal burns.

Eyes: This product is not likely to be an eye irritant under recommended conditions of use. Mechanical irritation is possible, but unlikely under recommended conditions of use. Molten product may cause thermal burns.

Ingestion: Ingestion of this product is not a likely route of exposure.

Carcinogenicity: These components are not considered to be hazardous chemicals per OSHA Hazard Communication Standard: 29 CFR Part 1910.1200. No Ingredient of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen by IARC. No ingredient of this product present at levels greater than or equal 0.1% is identified as a known or anticipated carcinogen by NTP. No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Characterization: Polyolefins and additives. *

Description: Film made of polyolefins. **

Mixture:

Chemical Characters: Polyolefin and additives.

Hazard Information: The material is not expected to be classified as hazardous.

Continued...

Note - legal notice on page 5.



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SECTION 4: FIRST AID MEASURES

The following first aid recommendations assume that appropriate personal and industrial hygiene practices are followed.

If Inhaled: This material is not likely to be hazardous by inhalation. At room temperature, the material is neither an irritant nor gives off hazardous vapor. In case of excessive inhalation of fumes due to critical situations (fire, etc.) move the person to fresh air. If symptoms persist, contact a physician.

In Case of Skin Contact: This material is not likely to be hazardous by skin contact. If molten material contacts skin, quickly cool in water, seek immediate medical attention. Do not try to peel solidified material from the skin or use solvents or thinners to dissolve it.

In Case of Eye Contact: Not likely to be an eye hazard in present form. In the case of physical contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of exposure to excessive fumes due to critical situations (fire, etc.) move the person to fresh air. If symptoms persist, contact a physician.

If Swallowed: This material is not likely to be ingested in present form. Do not induce vomiting. Seek medical advice.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Water, Water Mist, Dry Chemical, Carbon Dioxide, and Foam. If possible water should be applied as a spray from a fogging nozzle since this is a surface burning material. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific Hazards During Fire Fighting: In its normal form, this product offers no unusual explosion hazards. See Hazardous Decomposition Products below.

Special Protective Equipment and Precaution for Fire Fighters: Use personal protective equipment. Wear self-contained breathing apparatus and chemical protective clothing for firefighting, if necessary.

Hazardous Decomposition Products: Normal combustion forms carbon dioxide, water vapor and may produce carbon monoxide, incomplete combustion products, other hydrocarbons, and hydrocarbon oxidation products depending on temperature and air availability.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Collect spilled material. Danger of slipping on spilled product.

Environmental Precautions: No special measures required. Prevent product from entering drains.

Methods and Materials for Containment and Cleaning Up: Clean up promptly by physical collection, sweeping or vacuum. Recycle product or dispose of properly.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: Good personal hygiene practices and employ good housekeeping. Always wash hands after handling the product. When handled in bulk quantities, this product and its associated packaging may present a crushing hazard due to the large masses involved, possibly resulting in severe injury or death. Take precautionary measures against static electricity. Minimize dust generation.

Precautions for Safe Storage: Keep in a cool, dry, well ventilated environment. Product should not be stored in excessive cold, direct sunlight or temperatures exceeding 90°F. Compliance of this policy should ensure optimum performance of this product. Store in accordance with local regulations. Materials should be stored away from heat, sources of ignition, direct sunlight, oxidizing agents and other incompatible materials. Treat as a solid that can burn.

Continued...

Note - legal notice on page 5.



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SECTION 7: HANDLING AND STORAGE *Continued...*

Installation Temperature Range: Below 110°F (ambient). Please also see technical and safety data sheets for accessory products installation/application temperature ranges.

In-Service Temperature Range: Below 85°F (soil and slab temperature, beginning 28 days following slab placement). Please also see technical and safety data sheets for accessory products installation/application temperature ranges.

Exposure to Ultraviolet Radiation/Weather Events: The amount of time between when Stego Wrap is installed and when concrete is placed or other complete protection from sunlight and weather events is provided should be minimized while not exceeding 7 days.

Please review the remainder of the SDS and this wrap's technical data sheet for storage and additional information. If any of the conditions cited above pose a problem for the typical installation of Stego Wrap, please contact Stego Industries for additional information and solutions.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Ventilate area to prevent accumulation of dust and fumes. Use local exhaust ventilation when routinely heat sealing this product. Ensure good ventilation at the workplace.

Exposure Limits: No applicable exposure limits available for product or components.

Personal Protection: Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material is offered only based on our understanding of normal usage. User's selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.

Respiratory Protection: With proper Engineering Controls in place, no respiratory protection should be required.

Eye Protection: Use of safety glasses with side shields is good industrial practice. If contact is likely, safety glasses with side shields are recommended.

Skin Protection: Risk of skin irritation is not likely. If irritation occurs or is of concern wear disposable, protective gloves while handling this material.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, using tobacco products, or using toilet facilities. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Materials spilled on hard surface can be a serious slipping/falling hazard. Use care in walking on spilled material.

Environmental Controls: Comply with applicable environment regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

Occupational Exposure Limits: Consult local authorities for acceptable exposure limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

General Physical Form: Solid plastic film.

Information on Basic Physical and Chemical Properties

Appearance	Film
Physical State	Solid
Odor	Mild to no odor

Continued...

Note - legal notice on page 5.



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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES *Continued...*

Odor Threshold	No data available
pH-value	Not applicable
Melting Point (C)	90-140 degrees
Freezing Point (C)	No data available
Flash Point	No data available
Flammability (solid, gas)	Not classified. Polymer will burn but does not easily ignite.
Solubility in Water	Insoluble
Auto-ignition Temp	No data available
Density	1.00-0.91 g/cc
Lower Explosion Limit	Not applicable
Upper Explosion Limit	Not applicable
Explosive Properties	No data available

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions.

Conditions to Avoid: Avoid elevated temperatures for prolonged periods of time, contact with strong oxidizers, sparks or open flame. Minimize dust generation and accumulation.

Materials to Avoid: Avoid contacts with strong oxidizing agents. Material product performance and/or service life may be adversely affected by some aromatic hydrocarbons or other known polymer pro-degradants.

Hazardous Decomposition Products: Material does not decompose at ambient temperature.

Hazardous Polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral Toxicity: Health injuries are not known or expected under normal use. Presumed not toxic.

Inhalation Toxicity, Vapor: Health injuries are not known or expected under normal use. Presumed not toxic.

Dermal Toxicity: Health injuries are not known or expected under normal use. Presumed not toxic.

Skin Irritation: No data available. No adverse effects expected.

Eye Irritation: No data available. No adverse effects expected.

Sensitization: No data available. No adverse effects expected.

Carcinogenicity: See section 2.

Additional Toxicological Information: Contains additives that are encapsulated in the film. Under the normal conditions for use of this film the encapsulated additives are not expected to pose any health hazards per our experience and the information provided to us.

SECTION 12: ECOLOGICAL INFORMATION

Persistence and Degradability: This material is persistent in the environment. Not readily biodegradable.

Bioaccumulation: No data available. No bioaccumulation expected.

Mobility: Product is insoluble and floats on water.

Ecotoxicity (Aquatic and Terrestrial): Not expected to be harmful to aquatic or terrestrial organisms.

Biodegradability: The material is not expected to be readily biodegradable.

Other Information: Recycle material or dispose of properly.

Continued...

Note - legal notice on page 5.



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SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal (recommendations based on product as supplied): Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. It is recommended that all waste be analyzed for compliance to applicable laws and regulations governing proper recycling and/or disposal methods and reporting requirements. Consult your local or regional authorities.

SECTION 14: TRANSPORT INFORMATION

US DOT Hazard Class: Not regulated

SECTION 15: REGULATORY INFORMATION

US Regulations:

TSCA: All components of this product are on the TSCA inventory or are exempt from listing.

SECTION 16: OTHER INFORMATION

MEDICAL APPLICATION CAUTION: Do not use this material in medical applications involving permanent implantation in the human body or permanent contact with internal body fluids or tissues.

* Article; product meets definition of an article as defined by official OSHA interpretations.

** As per paragraph (i) of OSHA Hazard Communication Standard 29 CFR Part 1910.1200, formulation is considered a trade secret and specific chemical identify and exact percentage of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designation representatives in accordance with applicable provisions of paragraph (i).

Disclaimer: The information contained herein only applies to the noted product. To the best of our knowledge, having been obtained through our suppliers or third parties, this information is accurate. We make no warranties, express or implied, concerning this information or the safe use of the noted product, and we disclaim liability from loss, damage, or other from the product's use, handling, or storage. Users are responsible for verifying the fitness/suitable of the product for any purposes/applications and for confirming compliance with any/all relevant codes or regulations.

Please read the Product Statements for all Stego® products by navigating here:

<http://www.stegoindustries.com/legal>

Deciphering and qualifying for USGBC's LEED credits can be a daunting task. This document intends to explain how vapor barriers fit into the LEED equation, educate designers about how Stego® Wrap vapor barrier measures up when selecting below-slab moisture protection for green building projects, and outline the efforts Stego Industries makes at all levels of its organization to demonstrate its commitment to sustainability.

LEED Credits Where Vapor Barrier Selection Can Make Significant Impacts

A vapor barrier can be a component to contributing to a LEED credit or be a miniscule contributor. Understanding below-slab vapor protection's role in the various credits can filter green promotional claims, known as "green washing," from reality. Credits where a vapor barrier can contribute include:

Sustainable Sites: SS Credit 3 Brownfield Redevelopment (1 point)

Points can be earned by selecting sites and/or lots recognized as brownfields. While Stego Wrap will not directly affect this credit, Brownfield redevelopment often requires special remediation to take place to prevent possible soil contamination from compromising the building envelope. Testing shows that Stego Wrap vapor barrier maintains an extremely low water vapor permeance in the face of exposure to many harmful soil gases often found in brownfield sites. Stego Wrap can be an integral component of an overall remediation strategy—see Stego's "Brownfield Packet" for more information.

Energy and Atmosphere: EA Credit 1 Optimize Energy Performance (1-19 points)

Stego Wrap prevents significant amounts of water vapor from entering the building envelope from below the foundation or crawl space. This reduced moisture migration can significantly decrease the latent moisture load and subsequent power required by the HVAC system to maintain indoor humidity and temperature levels. Stego Wrap may not reduce power consumption levels enough to earn a point or points under this credit on its own, but it can certainly contribute to an overall energy optimization strategy. Many variables are involved with energy optimization; please contact the Stego Industries Technical Department for more details on this subject.

Indoor Environmental Quality: IEQ Credit 4.1 & 4.3 Low-Emitting Materials (1 point per Credit)

Stego Wrap vapor barrier has an extremely low permeance to water vapor migration in line with the most current industry expert recommendations. These two credits require low VOC content adhesives and low VOC emitting carpets, carpet cushions, hard surface floorings and grouts to be used for interior applications. Unfortunately, low VOC flooring adhesives, such as water-based adhesives, and carpet systems are susceptible to moisture-related damage and microbial growth due to water vapor migration. Stego Wrap vapor barrier will protect low VOC adhesives and low VOC emitting flooring systems from moisture-related damage.



LEED Credits Where Vapor Barrier Selection Can Have Minimal Impacts

▶ **Materials and Resources: MR Credit 4.1 & 4.2 Recycled Content (1 point for 10%, 2 points for 20%)**

MRC4 provides LEED credits based on the proportion of recycled content to overall costs for building materials. A vapor barrier system's tiny cost—relative to the overall cost of the building materials—means it provides a miniscule contribution to this credit compared to major component costs, such as concrete or steel. Beware of any specific claims that a vapor retarder containing recycled content qualifies your project for this credit.

Additionally, LEED MRC4 does not require all components to contain recycled content.

▶ **Materials and Resources: MR Credit 5.1 & 5.2 Regional Materials (1 point for 10%, 2 points for 20%)**

MRC5 awards 1 LEED credit if 10 percent of materials by cost are extracted, harvested, recovered and manufactured within 500 miles of the project site, and a second point if 20 percent of materials are extracted, harvested, recovered and manufactured within this radius. Again, because a below-slab moisture protection system represents such a tiny proportion of overall material costs, its contribution to this credit is negligible.

Additionally, LEED MRC5 does not require all components to be sourced within 500 miles.

Put Product Performance First

Stego Wrap vapor barriers and retarders revolutionized building practices by replacing polyethylene and visqueen-style products – which more often than not contain high recycled content -- that have proven to deteriorate and fail over time, leading to catastrophic floor failures, mold and moisture invasion, and poor indoor air quality. The superior performance of our products relies on prime virgin resins in their extrusion. We believe this is the most sustainable philosophy: developing products that will last the life of a building and protect its sensitive components.

Stego's Commitment to True Sustainability

Stego Industries leads the industry in practices, research and development to advance our industry toward a more sustainable future. We are a pilot program member of the Health Product Declaration project to identify harmful components in construction products, among the Healthy Building Network's "Transparency Leaders" in our industry, and operate from a 100 percent solar-powered facility with an Executive Green Team charting a sustainable future for the company.

