

Xtreme[®]

Vapor Barriers



UNDER-SLAB VAPOR RETARDER (03300 & 07260) (10 Mil Minimum Thickness)

PART 1 – GENERAL

1.1 SUMMARY

- A. Products supplied under this section:
 - 1. Vapor Retarder, seam tape, pipe boots & mastic for installation under concrete slabs.
- B. Related sections:
 - 1. Section 03 30 00 Cast-in-Place Concrete
 - 2. Section 07 26 00 Vapor Retarders

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM E 1745-09 Standard Specification for Plastic Water Vapor Retarders used in Contact with Soil or Granular Fill under Concrete Slabs.
 - 2. ASTM E 154-99 (2005) Standard Test Methods for Water Vapor Retarders used in Contact with Earth under Concrete Slabs, on Walls, or as Ground Cover.
 - 3. ASTM E 96-05 Standard Test Methods for Water Vapor Transmission of Materials.
 - 4. ASTM E 1643-09 Selection, Design, Installation, and Inspection of Water Vapor Retarders used in Contact with Earth or Granular Fill under Concrete Slabs.
 - 5. ASTM D 903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
 - 6. ASTM D 1249 Test Method for Water Vapor Transmission Rate Through Plastic Film or Sheeting Using a Modulated Infrared Sensor.
- B. American Concrete Institute (ACI):
 - 1. ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials. Vapor Retarder component is not less than 10 mils thick.

1.3 SUBMITTALS

- A. Quality Control/Assurance:
 - 1. Summary of test results as per paragraph 8.3 of ASTM E 1745.
 - 2. Manufacturer's samples, literature.
 - 3. Manufacturer's installation instructions for placement, seaming and penetration repair instructions.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Vapor Retarder (Performance Based Specification)
 - 1. Vapor Retarder membrane must have the following properties:
 - a. Minimum 10 mil thick plastic geo-membrane

- b. Manufactured with prime high-grade 100% virgin polyolefin resins
- c. Water Vapor Retarder-ASTM E 1745 meet or exceed Class A (Plastics)
- d. Water Vapor Permeance-ASTM E 96-0.020 perms (US) or lower
- e. Puncture Resistance-ASTM E 1745, Class A- minimum 2200 grams
- f. Tensile Strength-ASTM E 1745, Class A- minimum 45 lbf./in.

B. Approved Manufacturers

1. Xtreme 10 mil manufactured by Tex-Trude - (281-452-5961), www.tex-trude.com or MW Escue Company (901-861-5502), vaporbarrier@mwescue.com or underslab@mwescue.com (for budget pricing and stocking suppliers in your project area)
2. Vapor Block 10 mil manufactured by Raven Industries (800-635-3456) www.ravenind.com
3. Griffolyn 10 mil manufactured by Reef Industries (800-231-6074) www.reefindustries.com
4. Moistop Ultra 10 mil manufactured by Fortifiber (800-773-4777) www.fortifiber.com
5. Stego Wrap 10 mil-A *marketed* by Stego Industries, LLC (877-464-7834) www.stegoindustries.com
6. Viper Vaporcheck 10 mil *marketed* by Insulation Solutions (866-698-6562) www.insulationsolutions.com

2.2 ACCESSORIES

A. Seam Tape

1. Tape manufactured and/or supplied by the approved manufacturers listed in section 2.1 Materials (B.)
 - a. Water Vapor Permeance –ASTM E96B-0.01 perms (maximum)

B. Pipe Boots

1. Construct Pipe Boots from Vapor Retarder material and pressure sensitive tape per manufacturer's instructions.

C. Mastic

1. Mastic must have the following qualities.
 - a. Water Vapor Transmission ASTM E 96 – 0.3 perms or lower

PART 3 – EXECUTION

3.1 PREPARATION

- A. Ensure that base material is approved by Architect or Geotechnical Engineer.
1. Level and compact base material.

3.2 INSTALLATION

- A. Install vapor barrier in accordance with manufacturer's instructions and ASTM E 1643.
1. Unroll vapor barrier with the longest dimension parallel with the direction of the concrete placement.
 2. Lap vapor barrier over footings and/or seal to foundation walls.
 3. Overlap joints 6 inches and seal with manufacturer's tape.
 4. Seal all penetrations (including pipes) per manufacturer's instructions.
 5. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities.
 7. Repair damaged areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all sides with seam tape.

Comparison Chart

10 Mil Vapor Barrier

Physical Properties		ASTM E 1745 Class A	Tex-Trude Xtreme 10 mil	Stego 10 mil	BarrierBac 11 mil	Raven 10 mil	Reef 10 mil
Water Vapor Permeance	ASTM F 1249 or E96 Vapor Transmission Rate	0.1 perms	0.018 F 1249	0.0223 F 1249	0.020 E 96	0.0146 E 96	0.027 E 96
Puncture Resistance	ASTM 1709 – Test method for impact resistance of plastic film by free-fallen dart method	2200grams	3000	2266	2400	2600	2250
Tensile Strength	ASTM D 882 – Method for tensile properties of thin plastic sheeting	45.0 lbf/in ³	58	53.2	50	52	45
Roll Dimensions			14x200 2800 ft ²	14x210 2,940 ft ²	12.75x200 2550 ft ²	15x200 3000 ft ²	12x250 3000 ft ²
ISO Certified Company			YES	NO	YES	YES	NO
Made in United States			Yes	Unknown	Yes	Yes	Unknown

15 Mil Vapor Barrier

Physical Properties		ASTM E 1745 Class A	Tex-Trude Xtreme 15 mil	Stego 15 mil	BarrierBac 16 mil	Raven 15 mil	Reef 15 mil
Water Vapor Permeance	ASTM F 1249 or E96 Vapor Transmission Rate	0.1 perms	0.0078 F 1249	0.0084 F 1249	0.009 E 96	0.009 E 96	0.018 E 96
Puncture Resistance	ASTM 1709 – Test method for impact resistance of plastic film by free-fallen dart method	2200grams	4000	2326	2750	4000	3100
Tensile Strength	ASTM D 882 – Method for tensile properties of thin plastic sheeting	45.0 lbf/in ³	64	79.6	63	88	60
Roll Dimensions			14x150 2100 ft ²	14x140 1,960 ft ²	12.75x150 1913 ft ²	12x200 2400 ft ²	10x200 2000 ft ²
ISO Certified Company			YES	NO	YES	YES	NO
Made in United States			Yes	Unknown	Yes	Yes	Unknown

Xtreme[®] Vapor Barriers



Product Description:

Tex-Trude Xtreme Vapor Barrier / Retarder is a high performance material designed for use under concrete slabs to stop moisture migration and to control radon gas, methane, and other soil gases or contaminants. Xtreme Vapor Barriers / Retarders are extruded in a single sheet of material composed of virgin polyolefin resins. This high puncture resistant Vapor Barrier / Retarder has superior performance to other materials in the industry and is available in 10 mil, 15 mil and 20 mil.

Installation:

Under Concrete Slab: Install Tex-Trude Xtreme Vapor Barrier/ Retarder over tamped earth, sand or aggregate base. Unroll and completely cover

the area to receive the building slab or other specified areas. The seams must overlap a minimum of six inches and be sealed with Xtreme Seal Tape or heat welded. All exposed penetrations also must be sealed using Xtreme Seal Tape. A physical inspection of the area should be performed prior to installation.

Limited Warranty:

Tex-Trude warrants this product to meet the published specifications and to be free of defects in workmanship and materials at the time of shipment from our factory. If any Xtreme material proves to contain manufacture defects that substantially affect the performance, then Tex-Trude will at their option

replace the material or refund the purchase price. This limited warranty is the only warranty offered by Tex-Trude, LP as it relates to Xtreme products. There are no other warranties, including the implied warranties of merchantability or fitness for a particular purpose. Tex-Trude specifically disclaims liability for any incidental, consequential, or other damages.



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TEX-TRUDE, LP TECHNICAL DATA SHEET

Technical Data	ASTM E 1745, Class A,B,C – standard specification for water vapor retarders used in contact with soil or granular fill under concrete slabs				
Physical Properties		ASTM E 1745 Class A	Xtreme 10 mil	Xtreme 15 mil	Xtreme 20 mil
Water Vapor Permeance	ASTM F 1249 – Vapor Transmission Rate	0.1 perms	0.018	0.0078	0.0055
Puncture Resistance	ASTM 1709 – Test method for impact resistance of plastic film by free-fallen dart method	2200grams	3000	4000	5600
Tensile Strength	ASTM D 882 – Method for tensile properties of thin plastic sheeting	45.0 lbf/in ³	58	64	81
Methane Transmission Rate	ASTM 1434 – Standard test method for determining gas permeability	GTR	298.01	252.55	163.71
Life Expectancy	ASTM E 154 – Test methods for vapor retarders used in contact with earth under concrete slabs, on walls or as ground cover		Indefinite	Indefinite	Indefinite
Roll Dimensions			14x200 2800 ft ²	14x150 2100 ft ²	12x150 1800 ft ²
Roll Weight			134.6 lb	151.5 lb	173.2 lb

Note: Perm Unit = Grains/(ft² * HR *in·HG) GTR = Gas Transmission Rate

The information provided above was preformed and tested by an Independent Laboratory

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Xtreme[®]

Seam Tape



Product Description:

Tex-Trude Xtreme Tape is composed of a 23 mil thick strong self-adhering polymer asphalt adhesive that has superior performance and is designed to seal the seams of the Xtreme Vapor Barrier Systems. It is also used to seal penetrations coming through the slab, small repairs, and patch areas.



Installation:

Prior to installation, perform a visual inspection of the Xtreme Vapor Barrier to insure a 6" overlap has

been achieved and all dust, dirt, debris, moisture has been removed.

Slab Penetration: Using Xtreme Vapor Barrier material, cut out a minimum of 12" and one-half times the pipe circumference. Cut slits in the boot half the width of the film. Slide the boot over the penetration. The boot is to be in flat contact with the Xtreme Vapor Barrier. It is important to tape the boot to the pipe and around the base.

Warm conditions: Store out of direct sunlight. Perform normal installation, using industry knowledge of the guidelines for vapor barriers.

Cold conditions: In cold weather applications, it is suggested to condition the tape 8 hours in a warm environment prior to use. This will help the tape reach its optimal performance.

Limited Warranty:

Tex-Trude warrants this product to meet the published specifications and to be free of defects in

workmanship and materials at the time of shipment from our factory. If any Xtreme material proves to contain manufacture defects that substantially affect the performance, then Tex-Trude will at their option replace the material or refund the purchase price. This limited warranty is the only warranty offered by Tex-Trude, LP as it relates to Xtreme products. There are no other warranties, including the implied warranties of merchantability or fitness for a particular purpose. Tex-Trude specifically disclaims liability for any incidental, consequential, or other damages.



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TECHNICAL DATA	
	Xtreme Tape
Thickness	23 mil
Permeance	0.01
Tensile Strength	1112 psi
Elongation	1058.466%
Cold Weather Resistance	Excellent

PACKAGING	
	Xtreme Tape
Size	4" x 150'
Rolls Per Case	9
Weight	6.8 lb ea.
	61.2 lbs per case
Color	Off White

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TEX-TRUDE, LP TECHNICAL DATA SHEET

Xtreme[®] Mastic



Product Description:

Tex-Trude Xtreme Mastic is a rapid curing water-based, polymer-modified anionic bituminous/asphalt. Tex-Trude Xtreme Mastic is designed to be installed around penetrations (pipes) protruding through the vapor barrier. It is very effective when sealing more than one penetration that are close together. Tex-Trude Xtreme Mastic has an outstanding bond to the Tex-Trude Xtreme Vapor barrier and when used properly helps aid in the protection of concrete from vapor transfer.

Installation:

Prior to installation, perform a visual inspection of the Xtreme Vapor Barrier and the penetration to insure all dust, dirt, debris, moisture has been removed. It is important to apply the Xtreme Mastic liberally on the penetration, forming a

monolith coating (minimum of 64 mil thick) attaching the Xtreme Vapor Barrier and the penetration.

Warm conditions: Store out of direct sunlight. Perform normal installation, using industry knowledge of the guidelines for vapor barriers.

Cold conditions: In cold weather applications, it is suggested to condition the Xtreme Mastic 8 hours in a warm environment prior to use. This will help the Xtreme Mastic reach its optimal performance.

Limited Warranty:

Tex-Trude warrants this product to meet the published specifications and to be free of defects in workmanship and materials at the time of shipment from our factory. If any Xtreme material proves to contain manufacture defects that substantially affect the performance,

then Tex-Trude will at their option replace the material or refund the purchase price. This limited warranty is the only warranty offered by Tex-Trude, LP as it relates to Xtreme products. There are no other warranties, including the implied warranties of merchantability or fitness for a particular purpose. Tex-Trude specifically disclaims liability for any incidental, consequential, or other damages.



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TECHNICAL DATA	
	Xtreme Tape
Thickness	64 mil
Permeance	0.01
Tensile Strength	1112 psi
Elongation	1058.466%
Cold Weather Resistance	Excellent

PACKAGING	
	Xtreme Tape
Pail	5 gallon
Pails per pallet	36
Weight	38 lb ea.
Color	Black

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