

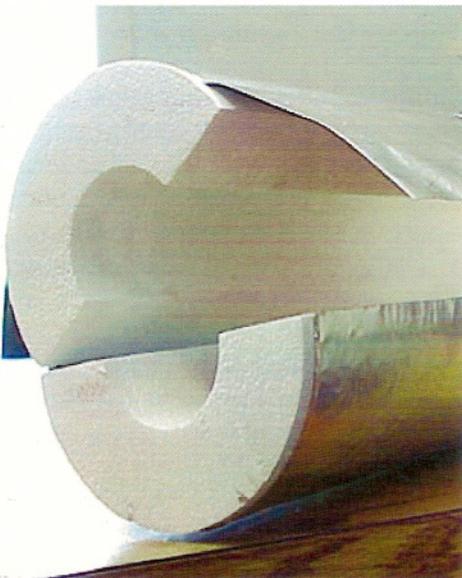
ALUMAGUARD

THE ALUMAGUARD FAMILY OF PRODUCTS



ALUMAGUARD

Our initial offering of an exterior weatherproofing membrane in 1997 to replace failing mastic / fab / mastic installations or metal installations. Designed with a cross laminated high strength polyethylene laminated to raw aluminum. This film is then laminated to our proprietary rubberized bitumen compound with a release liner. There is no adhesive in this product, the nature of our proprietary rubberized bitumen compound is inherently tacky and self adhesive. At less than .02 perms, the ability to self heal if damaged, and a 400% elongation before break makes Alumaguard the perfect membrane for waterproofing and vapor proofing exterior insulation systems on duct or pipe.



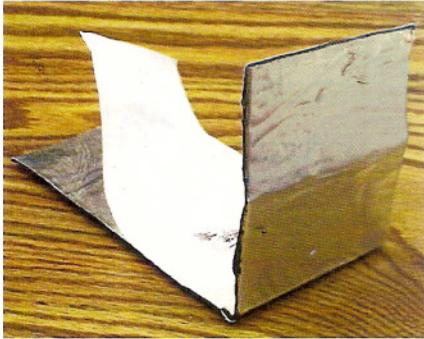
ALUMAGUARD LITE

Constructed with the same cross laminated high strength polyethylene laminated to raw aluminum. This film is then laminated with a proprietary low temperature acrylic adhesive with a release liner. Also at less than .02 perms and a 400% elongation before break makes Alumaguard Lite is designed solely for installation on the bottom of exterior duct work (to eliminate sagging and pinning issues). Alumaguard Lite is a 25/50 product and can be used on ANY indoor application.

POLYGUARD DOES NOT RECOMMEND A THIN NON-SELF SEALING MEMBRANE ON THE ENTIRE EXTERIOR OF A ROOFTOP DUCT SYSTEM. ONLY APPLY ALUMAGUARD LITE ON THE BOTTOM OF THE DUCT WHERE EXPOSURE AND ABUSE IS MINIMAL.

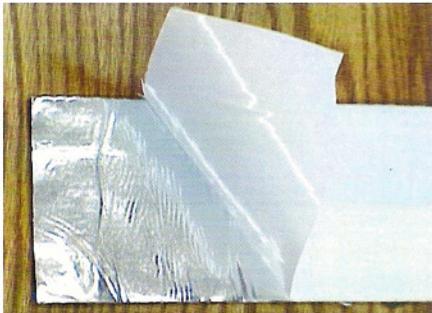
Polyguard
www.polyguardproducts.com

SPECIALTY PRODUCTS



ALUMAGUARD LT (low temperature)

Alumaguard LT has been introduced to provide low temperature installation without losing the benefits of self healing. The cross laminated high strength polyethylene laminated to raw aluminum film is the strength of the base product. We then take a metalized PET laminated with a proprietary low temperature acrylic adhesive and laminate our rubberized bitumen compound with a release liner to that. The final product is a self healing, low temperature applied aluminum jacketing system for exterior duct and piping.



At less than .01 perms, the ability to self heal if damaged, and 400% elongation before break makes Alumaguard LT a perfect membrane for waterproofing and vapor proofing exterior insulation systems on duct or pipe in cold temperatures.



ALUMAGUARD EE (extended edge)

Alumaguard EE has been introduced to provide a positive asphalt to asphalt seal on the circumferential overlap. This is standard Alumaguard with a 1/2" strip of raw asphalt on one edge. The raw asphalt has release liner on the bottom like the rest of the product, and has an additional polyethylene 'zip strip' release liner on the aluminum side.

Simply install the first piece of Alumaguard with the zip strip edge toward future pieces, install the Alumaguard as instructed. When ready to install the next piece of Alumaguard (with 3" std. lap), simply remove the zip strip to expose the asphalt and install the second piece. You cannot get an asphalt to asphalt seal back apart, so care will have to be made when installing Alumaguard EE—it's a little more difficult than Alumaguard.



At less than .02 perms, the ability to self heal if damaged, an asphalt to asphalt sealed edge, and 400% elongation before break makes Alumaguard EE a perfect membrane for waterproofing and vapor proofing exterior insulation systems on duct or pipe.

REV 2.14.07

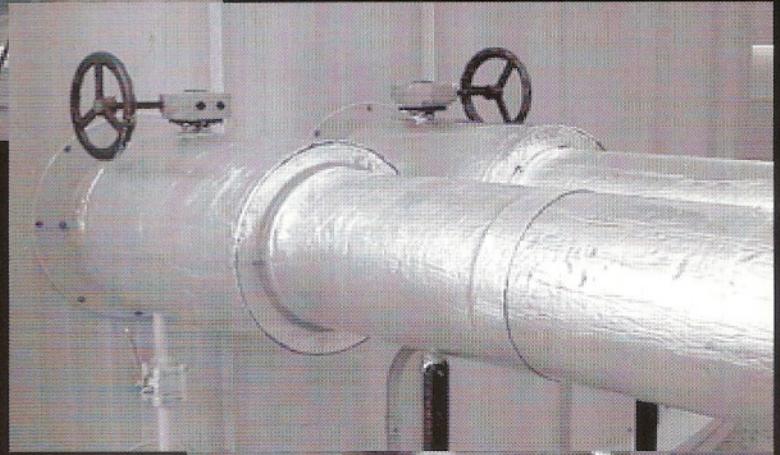
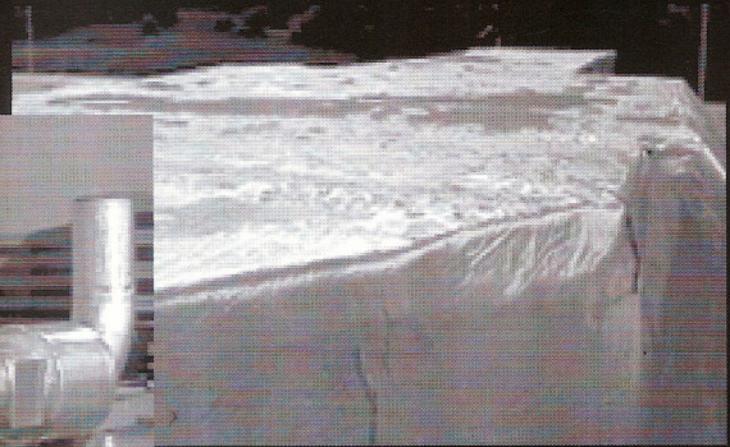
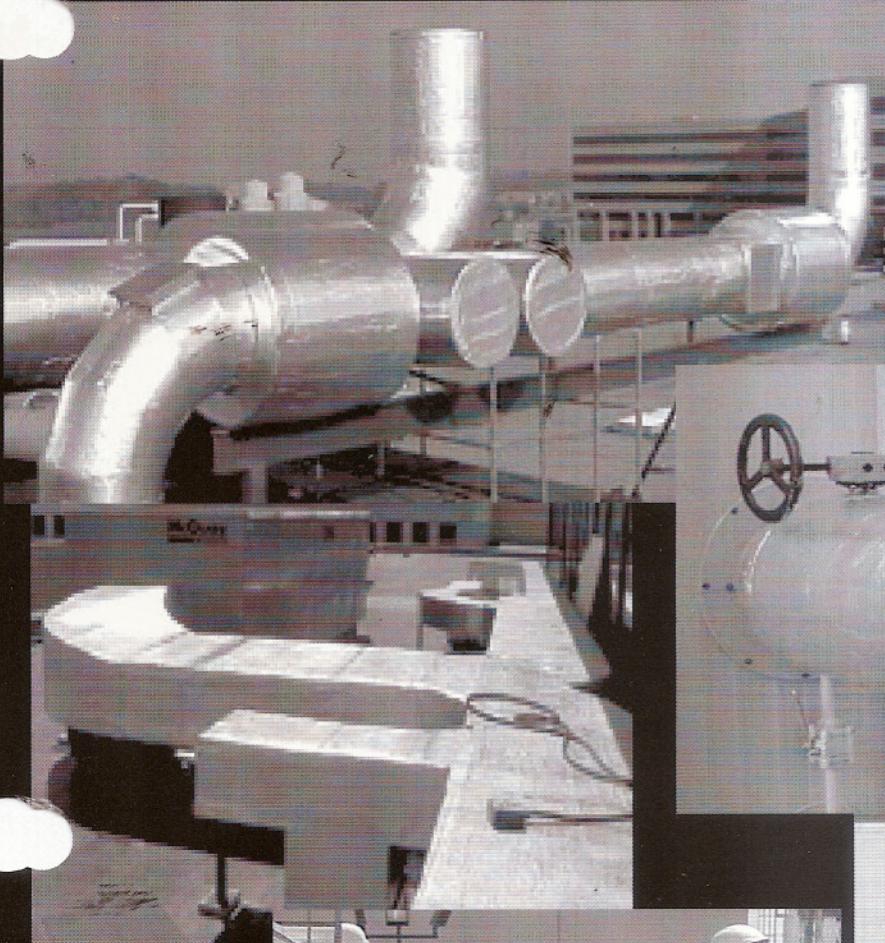
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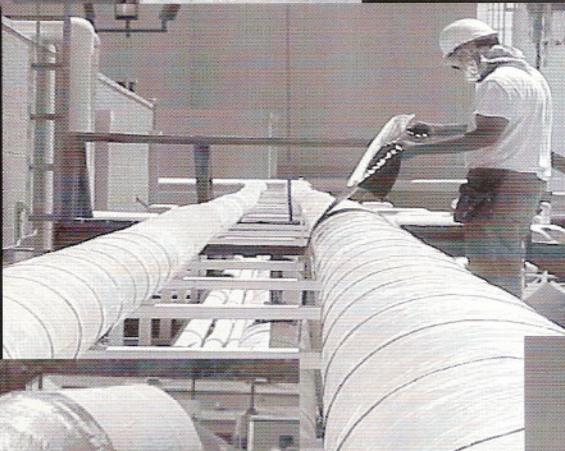


- American Natl. Standards Institute
- Dutch Council for Certification
- Deutscher Akkreditierungs Rat

Alumaguard 60™



**Everything
you want in
an exterior
jacketing
system**



**Weather
Barrier
Vapor
Barrier
Sound
Attenuation
Peel-N-Stick
Self-Healing**



Alumaguard 60™

Technical Information

Alumaguard 60™ is a specialty rubberized bitumen membrane designed specifically to be installed over insulation on exterior ductwork, refrigeration piping, chilled water piping, tanks, vessels, and equipment. The membrane is 'peel and stick', self-healing if punctured, UV stable, and will expand and contract with the mechanical system. The membrane has excellent emissivity and sound attenuation properties.

Alumaguard 60 is not, and should not, be used as a mechanical fastener. Band or pin insulation as needed.

Technical Properties & Testing

Membrane Property	ASTM Test Method #	Typical Results
		Alumaguard 60™
Total Product Thickness	D 1000	.060"
Water Vapor Transmission [grains/(hr-ft²)]	E 96-00	0.0022
Permeance (US Perms)	E 96-00	0.0053
Water Vapor Transmission [grains/(hr-ft ²)] Compound Only	E 96-00	0.012
Permeance (US Perms) Compound Only	E 96-00	0.035
Peel Adhesion (to primed steel)	D 1000	> 12 LB/In Width
Elongation at Break	D 882	400%
Low Temperature Permeability	D 146 (modified)	No Cracks @ -15°F
Low Temperature Permeability	D 146 (modified)	No Cracks @ -31°F
Tensile Strength Backing	D 882 (Method B)	5000 PSI
Puncture Resistance Backing	E 154	> 40 LBS
Fungus Resistance Membrane	G 21-90	0 Growth
Sound Transmission Coefficient	E 90-97	0.18
Upper Temperature Limit	LAB	160° F

Specialized Testing

Overlap Bond Aging Test: (Lbs/1")		
Bond to itself (after 2 hours UV exposed)	D 1000	11.2
Bond to itself (after 3 days UV exposed)	D 1000	22.3
Cold Weather Peel Adhesion		
Peel Adhesion (overlap bond) @ -15° F		19.5
Peel Adhesion (overlap bond) @ -31.5° F		14.7

Exposure to NH₃ and NH₄OH (request tech update for complete details)

[Tested by exposure to Anhydrous Ammonia Gas, Ammonium Hydroxide 5%, and Ammonium Hydroxide 25%]

SOLUTION:	ELAPSED TIME	Gloss (0-100)	Etching	% Weight Loss
Anhydrous Ammonia Gas				
Alumaguard 60™	0	62	0	0.0%
Alumaguard 60™	5	35	1	2.0%
Alumaguard 60™	20	16	2	5.2%
Ammonium Hydroxide 5% Solution				
Alumaguard 60™	0	62	0	0.0%
Alumaguard 60™	5	38	2	2.6%
Alumaguard 60™	20	14	3	5.7%
Ammonium Hydroxide 25% Solution				
Alumaguard 60™	0	62	0	0.0%
Alumaguard 60™	5	33	2	3.9%
Alumaguard 60™	20	15	3	7.8%

Overall Independent Lab Test deemed "severe based on field expectations": excellent product performance

NOTE: Printed instructions are detailed on our installation instruction sheets, this is not an installation instruction document; before installing or specifying Alumaguard™, obtain a full set of installation instructions from your local distributor, sales representative, or call Polyguard Products (1-800-541-4994) for a set of instructions. We have them available on our website.



Polyguard Products

Ennis, Texas

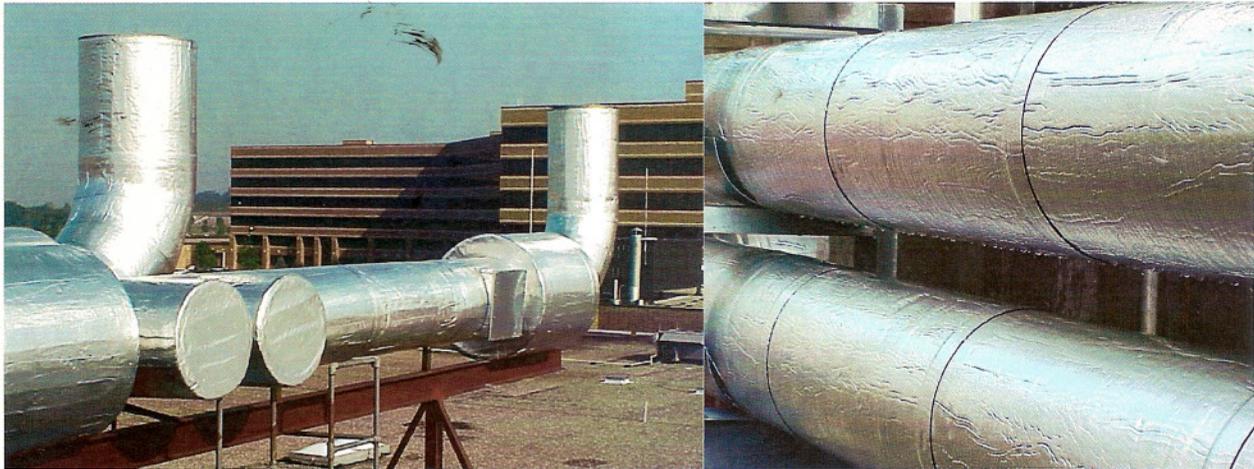
972-875-8421

972-875-9425 Fax

www.polyguardproducts.com

ALUMAGUARD

Ducts **must** be sealed in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible - Second Edition (1995) Seal Class A prior to insulation of **ALUMAGUARD®**.



Alumaguard has been in service on thousands of ducts and piping systems around the world, proving that a peel and stick, self-healing membrane is the perfect waterproofing system for exterior insulated systems.

The introduction of four new Alumaguard products gives the specifier and contractor the perfect selection of products for any project. The introduction of Alumaguard Lite for the bottom of the ducts eliminates the need to pin through the Alumaguard on the bottoms of the duct anymore.

HOWEVER, WE DO NOT RECOMMEND A THIN NON-HEALING MEMBRAND ON AN ENTIRE EXTERIOR DUCT SYSTEM.

Complete installation instructions are available on our website, or by calling us.

Alumaguard is a specialty rubberized bitumen membrane designed specifically to be installed over insulation on exterior ductwork, refrigeration piping, chilled water piping, tanks, vessels, and equipment. The membrane is 'peel and stick', self-healing if punctured, UV stable, and will expand and contract with the mechanical system. The membrane has excellent emissivity and sound attenuation properties.

Membrane Property	ASTM Test	Typical Results
	Method #	Alumaguard™
Total Product Thickness	D 1000	.060"
Water Vapor Transmission [grains/(hr-ft²)]	E 96-00	0.0022
Permeance (US Perms)	E 96-00	0.0053
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Exposure to NH₃ and NH₄OH (request tech update for complete details)

[Tested by exposure to Anhydrous Ammonia Gas, Ammonium Hydroxide 5%, and Ammonium Hydroxide 25%]

Overall Independent Lab Test deemed "severe based on field expectations": excellent product performance

NOTE: Printed instructions are detailed on our installation instruction sheets, this is not an installation instruction document; before installing or specifying Alumaguard™, obtain a full set of installation instructions from your local distributor, sales representative, or call Polyguard Products (1-800-541-4994) for a set of instructions. We have them available on our website.

REV 4.3.07

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214-515-5000



- American Natl. Standards Institute
- Dutch Council for Certification
- Deutscher Akkreditierungs Rat

ALUMAGUARD

INSTALLATION RECOMMENDATIONS

Ducts **must** be sealed in accordance with **SMACNA HVAC Duct Construction Standards Metal and Flexible - Second Edition (1995) Seal Class A** prior to insulation of ALUMAGUARD.

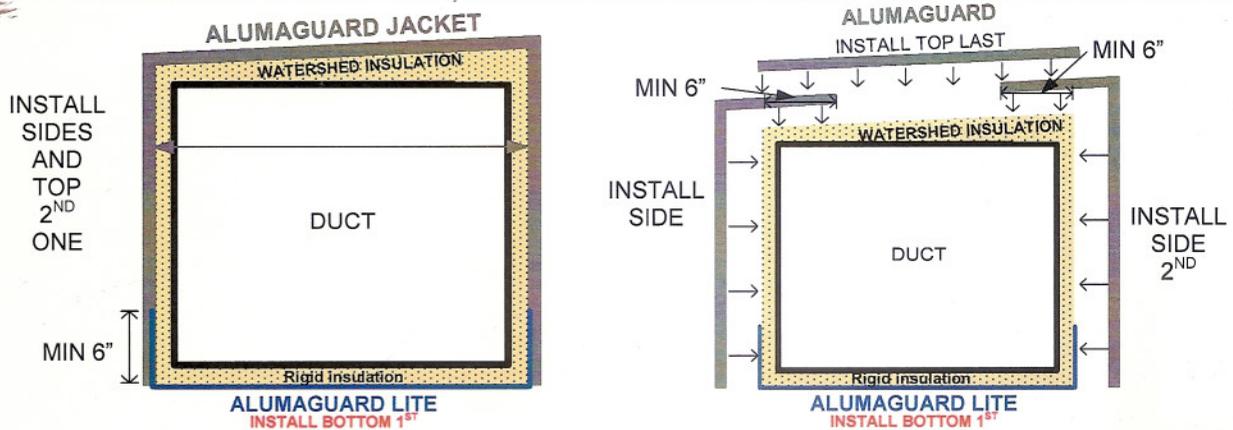
The introduction of **ALUMAGUARD LITE**, makes it unnecessary to pin through the membrane on the bottom of duct. The weight and construction of ALUMAGUARD LITE does not require mechanical support.

Hot and cold air ducts should be installed in the following manner to maintain proper vapor barrier and physical integrity; the board insulation should be mechanically installed on properly sealed duct according to the engineer's specification using insulation fasteners (mini-cup weld pins or perf. based pins and washers). Insulation on the top of the ductwork *should* be installed in such a manner as to allow for 'water shed' from the top of the duct to prevent water from 'ponding'.

Polyguard recommends faced rigid foam insulation (closed cell) for a smooth look, less seams, and superior R-Value per inch. Extruded polyisocyanurate and expanded polystyrene with a foil or polyethylene face.

Polyguard recommends our ALUMAGUARD system be installed according to one of the following procedures;

- Cut one piece of ALUMAGUARD LITE to cover the underside of the duct and up 6" on each side. **DUE TO THE POTENTIAL ABUSE POLYGUARD DOES NOT RECOMMEND THE APPLICATION OF ALUMAGUARD LITE TO THE ENTIRE DUCT, USE ALUMAGUARD, ALUMAGUARD EE, OR ALUMAGUARD LT ON THE TOP AND SIDES.**
- Cut two side pieces to fit from the bottom corner of the duct up over the top of the duct, lap over the top 6", **DO NOT FOLD A LAP UNDER THE DUCT.**
- Cut the final piece to cover the top, trim it flush with the top corners. Roll the ALUMAGUARD membrane as you remove the release film with a laminate roller to insure adhesion and lessen wrinkling.



ALUMAGUARD can also be installed in a one piece application when duct size permits. Starting at the bottom of one side of the duct, go up the side, over the top, and down the other side trimming the Alumaguard flush with the bottom corner of the duct; **do not terminate the lap on the bottom of the duct!**

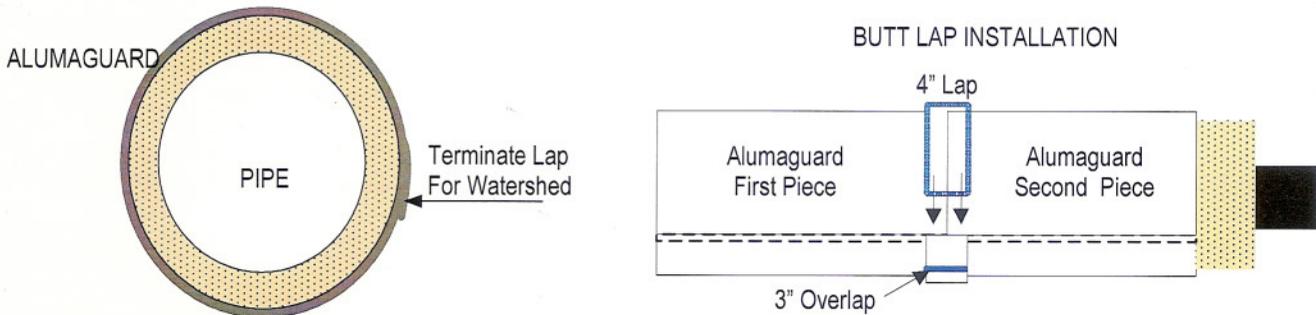
When installing ALUMAGUARD in temperatures below 50° F, Polyguard's Low Temperature Activator or Alumaguard LT should be used. Alumaguard LT requires no activator (down to 0° F)

ALUMAGUARD must be protected from damaging chemicals; being rubberized bitumen, we will be 'solvated' when exposed to petroleum or coal tar based compounds. If you are unsure of the materials you will be subjecting our product to, please feel free to call us at 1-800-541-4994 for more information. Store ALUMAGUARD in a warm dry place prior to installation. For specific installation recommendations please call us for detail drawings as you require them.

ALUMAGUARD is an excellent cold piping jacketing system; superior to metal or PVC in performance. Its properties facilitate installation on cold systems **WITHOUT** the need for slip joints, eliminating a potential vapor breach. ALUMAGUARD will expand and contract with the piping system without rupture; minimal wrinkling may occur.

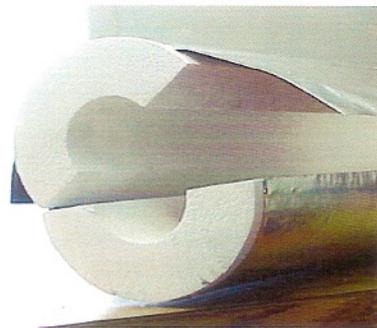
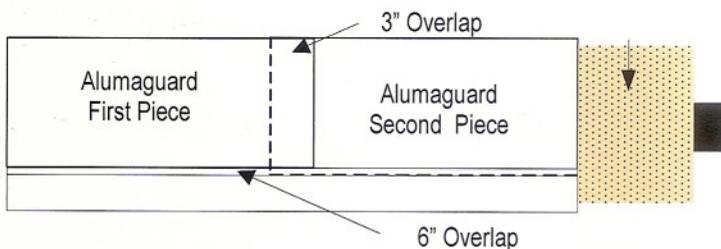
NOTE: ALUMAGUARD IS NOT TO BE USED AS A MECHANICAL FASTENER! Insulation must be installed (tape or bands) according to the manufacturers instruction. If ALUMAGUARD is pre-applied to pipe cover, it **MUST BE BANDED** when installed. **DO NOT PAINT ALUMAGUARD BEFORE READING OUR TECHNICAL BULLETIN SHEET, it can void your warranty!**

Cold piping systems jacketed with ALUMAGUARD or ALUMAGUARD LITE should be installed in the following manner; the "stretch out" for each piece should be cut to allow a 6" lap over the circumferential lap. Install tightly around the pipe insulation, rolling with a laminate roller or other firm "rolling pin" type roller to insure contact with the substrate. Each piece should be within 1-1/2" of the previous piece and a 4" wide butt lap placed over the joint and rolled with a roller. The butt lap should start where the circumferential lap ends, wrapping around the pipe, and then lapping over 6" past the starting point. Installation can also be a cigarette wrap method using a 3" longitudinal lap and the same 6" circumferential lap. **ALUMAGUARD is not a mechanical fastener, insulation should be installed with strapping or banding according to manufacturers instruction.**



NOTE: Care should be taken when using ALUMAGUARD on hot systems to insure that the surface temperatures after insulation do not exceed our upper use limitations. It is important to note that heat transfer through single layer joint seams could result in the softening or melting of the rubberized asphalt compound.

Install the first ALUMAGUARD or ALUMAGUARD LITE piece over the insulation with a 6" lap terminated at the 4 o'clock position. Install the second piece of ALUMAGUARD with 3" overlapped onto the previous piece of ALUMAGUARD. The circumferential laps should all line up at the 4 O'clock position to shed water. Roll the surface with a laminate roller or other firm "rolling pin" type roller to insure contact with the substrate. Insulated piping exceeding 12" outside diameter requires the use of banding on Alumaguard.



Fittings, 90's, tees, valves, and 45's can be laid out using standard sheet metal methods, modified to allow for overlap. This can be accomplished by adding to the throat and heel of the fittings. The bottom piece is installed first, and then the top piece lapped over the bottom piece to permit water shedding over the lap. Tees, valves and other fittings can be fabricated just like you would use standard layout procedures, either two piece or gored fittings, simple add for the overlap. Fittings can also be 'gored', over sizing each gore piece to allow for a lap onto the preceding piece. Installers can also use standard metal fitting covers with the Alumaguard products. Care must be used to insure that the fittings are vapor sealed!

REV 4.3.07

TECHNICAL UPDATE

DATE: Revised December 2004

SUBJECT: Painting *Alumaguard*

PAINTING Alumaguard IS NOT RECOMMENDED!

If you absolutely **MUST** paint Alumaguard, painting it *will void our warranty*.

Though many have painted *Alumaguard*, customers who have chosen a dark color (green, brown, black) raised the surface temperature of *Alumaguard* considerably which caused:

- softening of the rubberized asphalt
- melting and running of the rubberized asphalt
- weakening of seams due to softening
- seam rupture from low pressure air leaks in duct
- lifting of seams due to softening
- sagging of the bottom on the bottom of the duct

If you choose to paint *Alumaguard*, prior to painting, the entire surface must be cleaned with alcohol to remove dirt and oil; paint it a *LIGHT* color!

Use a high quality oil based primer to the surface with either a paint roller or via sprayer. Allow to dry completely according to the instructions on the primer.

When the primer is completely dry, apply high quality OIL BASED EXTERIOR ENAMEL (*thermo-set*) paint with either a paint roller or via sprayer.

Any painted surface will require maintenance, expansion and contraction will cause cracking of the paint down the road which will require re-painting and/or touch up painting. Paints contain solvents which are flammable and which can attack our rubberized asphalt compound. Again, we strongly discourage the painting of Alumaguard, and if the choice is made, it is at your own risk.

Polyguard

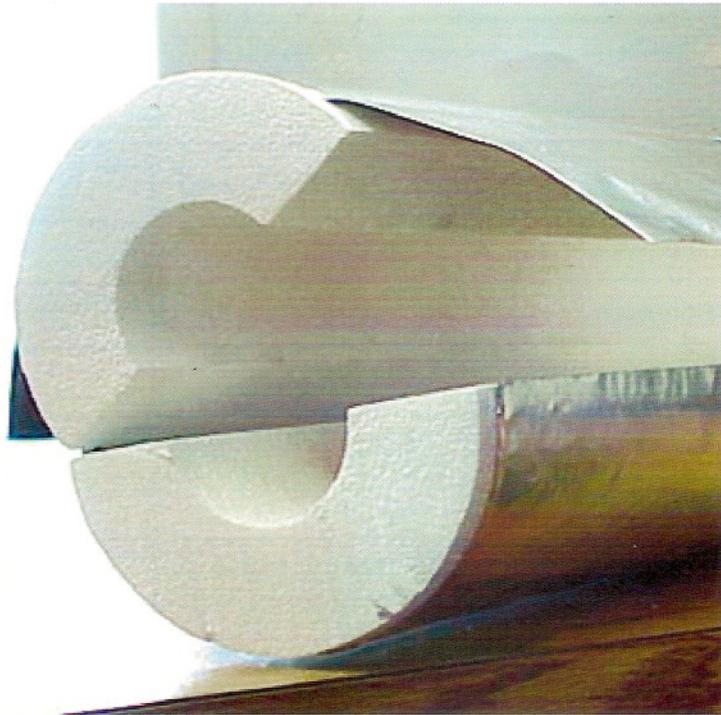
www.polyguardproducts.com

ALUMAGUARD LITE

The introduction of **ALUMAGUARD LITE** makes it unnecessary to pin through the membrane on the bottom of duct. This will prevent Alumaguard from sagging on the bottom of a duct.

WE DO NOT RECOMMEND THE INSTALLATION OF ANY THIN NON SELF-HEALING MEMBRANE ON AN ENTIRE PIPE OR DUCT SYSTEM OUTDOORS!

Alumaguard Lite is the same high strength foil/cross laminated polyethylene film that Alumaguard is made from. We replaced the rubberized asphalt compound with a low temperature acrylic adhesive. Alumaguard Lite is perfect for the application on the bottom of exterior ductwork to prevent sagging and pinning.



Alumaguard Lite is also perfect for any application 'under jacket', or any project inside your plant. Very low perm, very tough, will take a wash down, and best of all low cost!

Soon available in white, it is the perfect jacketing on cold to moderate service temperatures; and it will stick to most any insulation product used in our industry.

Polyguard

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USES:

- Ammonia Refrigeration Piping**
- Brine Piping**
- Glycol Piping**
- Chilled Water Piping**
- Exterior Duct Work (Bottom)**
- Interior Duct Work**
- LnG Piping**
- Process Piping**
- Tanks & Vessels**

TECHNICAL:

Property	Test Method used	Results
Peel adhesion **	ASTM D-903	11.5# lb _F /in
Low temp. Adhesion	Polyguard Method	1.11 lb _F /in 24 F 74 % RH
WVTR (gr/100 in ² 24hrs 100° F 90%RH)	ASTM E-96-E	< .01
Tear Strength	ASTM D-624	8.5 #
Puncture resistance	ASTM E-154	8308 grams
Tensile Strength	ASTM D- 412	4385 psi
Elongation at Break	ASTM D-882	367%
Overlap bond to PE	ASTM D-1000	1.7 lb _F /in
Overlap bond	ASTM D-1000	1.8 lb _F /in
Thickness of membrane		8.6 mils
Thickness of release film		4.4 mils
200 F curl test	Polyguard Method	No curl after 2 hours
Flame Smoke	ASTM E-84	MEETS 25/50

REV 4.3.07

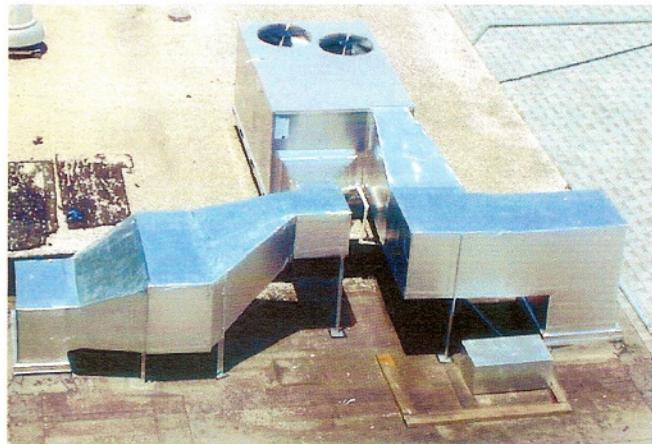
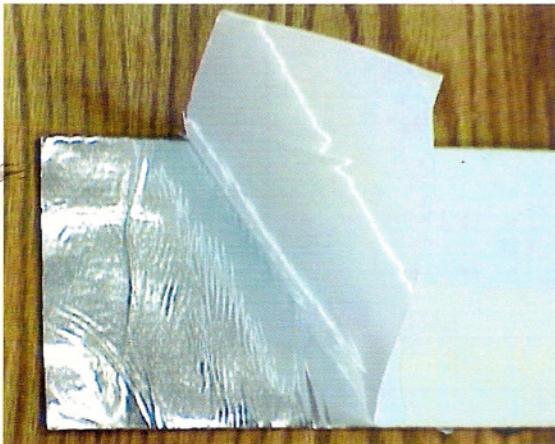
ALUMAGUARD LT

Ducts **must** be sealed in accordance with **SMACNA HVAC Duct Construction Standards Metal and Flexible - Second Edition (1995) Seal Class A** prior to insulation of **ALUMAGUARD**.

The introduction Alumaguard LT is the perfect product evolution for installation during the cold winter months. Alumaguard's rubberized asphalt loses tack as the temperature drops. Installation of Alumaguard below 50°F in the past required the application of a solvent based activator to the substrate prior to installing Alumaguard.

We developed a metalized PET film and applied a low temperature acrylic adhesive to the metalized surface, then laminated Alumaguard to the top of the film. We created a low temperature product without diminishing any of the great advantages of Alumaguard, such as it's ability to self-heal.

Furthermore, the introduction of Alumaguard Lite for the bottom of the ducts eliminates the need to pin through the Alumaguard to the bottom of the duct. **WE DO NOT RECOMMEND A THIN NON-HEALING MEMBRAND ON AN ENTIRE EXTERIOR DUCT SYSTEM!**



Alumaguard has been in service on thousands of ducts and piping systems around the world for over ten years; proving that a peel and stick, self-healing membrane is the perfect waterproofing system for exterior insulated systems, whether they are exterior ductwork, chilled water piping, or ammonia refrigeration piping. You can request job referrals for projects over almost any type of insulation; we've been applied over all commonly used industry types.

The introduction of ALUMAGUARD LT, ALUMAGUARD LITE, and ALUMAGUARD EXTENDED EDGE products gives owners, specifiers and contractors many options for any type of project.

Complete installation instructions are available on our website, or by calling us.

Alumaguard LT is not, and should not, be used as a mechanical fastener. Band or pin insulation as needed.

Technical Properties & Testing

Membrane Property	ASTM Test Method #	Typical Results Alumaguard Cold Weather
Water Vapor Transmission [grains/(hr-ft ²)]	E 96-00	0.0002
Permeance (US Perms)	E 96-00	0.0013
Water Vapor Transmission [grains/(hr-ft ²) Compound Only	E 96-00	0.0012
Permeance (US Perms) Compound Only	E 96-00	0.035
Peel Adhesion (to primed steel)	D 1000	> 7 LB/In Width
Elongation at Break	D 882	400%
Low Temperature Permeability	D 146 (modified)	No Cracks @ -15°F
Low Temperature Permeability	D 146 (modified)	No Cracks @ -31°F
Tensile Strength Backing	D 882 (Method B)	5000 PSI
Puncture Resistance Backing	E 154	> 40 LBS
Fungus Resistance Membrane	G 21-90	0 Growth
Sound Transmission Coefficient	E 90-97	0.18
Upper Temperature Limit	LAB	160° F
Specialized Testing		
Overlap Bond Aging Test: (Lbs/1")		
Bond to itself (after 2 hours UV exposed)	D 1000	5.8
Bond to itself (after 3 days UV exposed)	D 1000	8.2
Cold Weather Peel Adhesion		
Peel Adhesion (overlap bond) @ -15° F	D 1000	5.8
Peel Adhesion (overlap bond) @ -31.5° F	D 1000	8.2

REV 4.3.07

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ALUMAGUARD LT

INSTALLATION RECOMMENDATIONS

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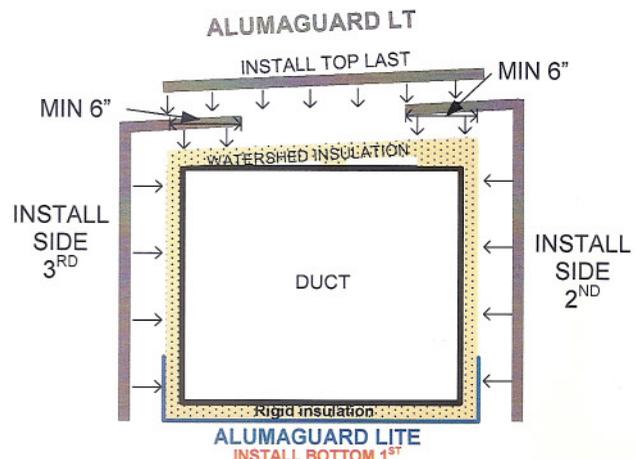
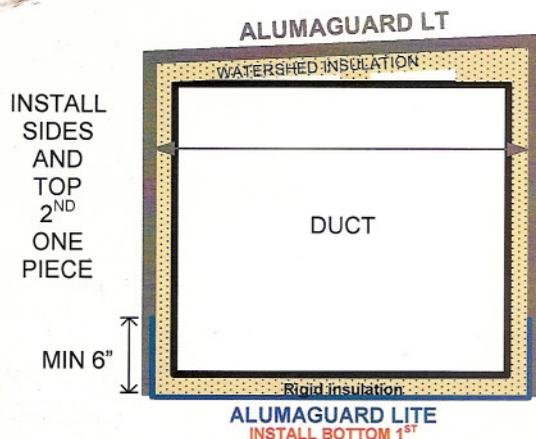
The introduction of **ALUMAGUARD LITE**, makes it unnecessary to pin through the membrane on the bottom of duct. The weight and construction of ALUMAGUARD LITE does not require mechanical support.

Hot and cold air ducts should be installed in the following manner to maintain proper vapor barrier and physical integrity; the board insulation should be mechanically installed on properly sealed duct according to the engineer's specification using insulation fasteners (mini-cup weld pins or perf. based pins and washers). Insulation on the top of the ductwork *should* be installed in such a manner as to allow for 'water shed' from the top of the duct to prevent water from 'ponding'.

Polyguard recommends faced rigid foam insulation (closed cell) for a smooth look, less seams, and superior R-Value per inch. Extruded polyisocyanurate and expanded polystyrene with a foil or polyethylene face.

Polyguard recommends our ALUMAGUARD LT system be installed according to one of the following procedures;

- Cut one piece of ALUMAGUARD LITE to cover the underside of the duct and up 6" on each side. **DUE TO THE POTENTIAL ABUSE POLYGUARD DOES NOT RECOMMEND THE APPLICATION OF ALUMAGUARD LITE TO THE ENTIRE DUCT, USE ALUMAGUARD, ALUMAGUARD EE, OR ALUMAGUARD LT ON THE TOP AND SIDES.**
- Cut two side pieces to fit from the bottom corner of the duct up over the top of the duct, lap over the top 6", **DO NOT FOLD A LAP UNDER THE DUCT.**
- Cut the final piece to cover the top, trim it flush with the top corners. Roll the ALUMAGUARD LT membrane as you remove the release film with a laminate roller to insure adhesion and lessen wrinkling.



ALUMAGUARD LT can also be installed in a one piece application when duct size permits. Starting at the bottom of one side of the duct, go up the side, over the top, and down the other side trimming the Alumaguard flush with the bottom corner of the duct; **do not terminate the lap on the bottom of the duct!**

ALUMAGUARD LT must be protected from damaging chemicals; being rubberized bitumen, we will be 'solvated' when exposed to petroleum or coal tar based compounds. If you are unsure of the materials you will be subjecting our product to, please feel free to call us at 1-800-541-4994 for more information. Store ALUMAGUARD in a warm dry place prior to installation. For specific installation recommendations please call us for detail drawings as you require them.

Polyguard

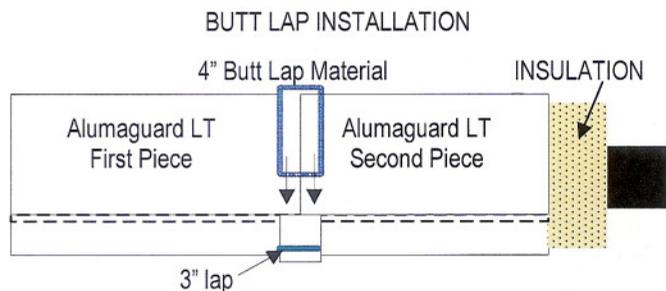
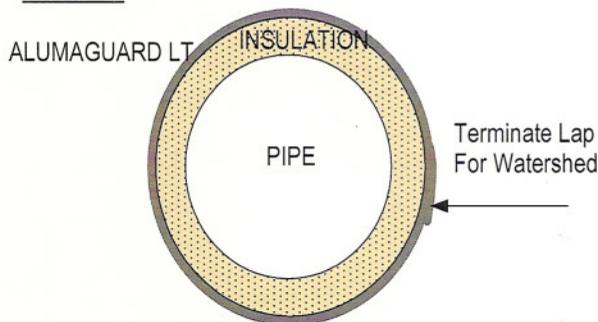
www.polyguardproducts.com

ALUMAGUARD LT is an excellent cold piping jacketing system; superior to metal or PVC in performance. Its properties facilitate installation on cold systems *WITHOUT* the need for slip joints, eliminating a potential vapor breach. ALUMAGUARD LT will expand and contract with the piping system without rupture; minimal wrinkling may occur.

NOTE: ALUMAGUARD IS NOT TO BE USED AS A MECHANICAL FASTENER! Insulation must be installed (tape or bands) according to the manufacturers instruction. If ALUMAGUARD is pre-applied to pipe cover, it **MUST BE BANDED** when installed. **DO NOT PAINT ALUMAGUARD BEFORE READING OUR TECHNICAL BULLETIN SHEET, it can void your warranty!**

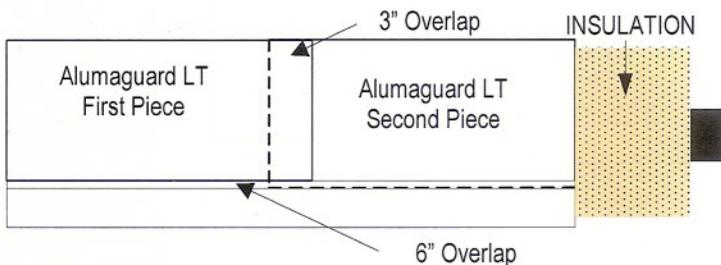
Cold piping systems jacketed with ALUMAGUARD LT or ALUMAGUARD LITE should be installed in the following manner; the "stretch out" for each piece should be cut to allow a 6" lap over the circumferential lap. Install tightly around the pipe insulation, rolling with a laminate roller or other firm "rolling pin" type roller to insure contact with the substrate. Each piece should be within 1-1/2" of the previous piece and a 4" wide butt lap placed over the joint and rolled with a roller. The butt lap should start where the circumferential lap ends, wrapping around the pipe, and then lapping over 6" past the starting point. Installation can also be a cigarette wrap method using a 3" longitudinal lap and the same 6" circumferential lap. **ALUMAGUARD is not a mechanical fastener, insulation should be**

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NOTE: Care should be taken when using any ALUMAGUARD product on a hot system, insure that the surface temperatures after insulation do not exceed our upper use limitations. It is important to note that heat transfer through single layer joint seams could result in the softening or melting of the rubberized asphalt compound.

Install the first ALUMAGUARD LT or ALUAMGUARD LITE piece over the insulation with a 6" lap terminated at the 4 o'clock position. Install the second piece of ALUMAGUARD with 3" overlapped onto the previous piece of ALUMAGUARD LT. The circumferential laps should all line up at the 4 O'clock position to shed water. Roll the surface with a laminate roller or other firm "rolling pin" type roller to insure contact with the substrate. Insulated piping exceeding 12" outside diameter requires the use of banding on Alumaguard.



Fittings, 90's, tees, valves, and 45's can be laid out using standard sheet metal methods, modified to allow for overlap. This can be accomplished by adding to the throat and heel of the fittings. The bottom piece is installed first, and then the top piece lapped over the bottom piece to permit water shedding over the lap. Tees, valves and other fittings can be fabricated just like you would use standard layout procedures, either two piece or gored fittings, simple add for the overlap. Fittings can also be 'gored', over sizing each gore piece to allow for a lap onto the preceding piece. Installers can also use standard metal fitting covers with the Alumaguard products. Care must be used to insure that the fittings are vapor sealed!

REV 4.3.07

ALUMAGUARD EE (Extended Edge)

Ducts **must** be sealed in accordance with **SMACNA HVAC Duct Construction Standards Metal and Flexible - Second Edition (1995) Seal Class A** prior to insulation of **ALUMAGUARD®**.

Alumaguard Extended Edge is produced with a half inch exposed asphalt edge covered by a zip strip along one edge of the roll. Alumaguard EE is applied the same as Alumaguard, only installing the exposed edge down the progression of your work.

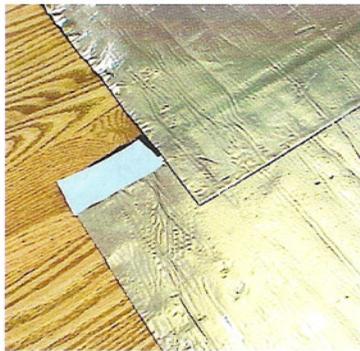
Care must be used in installing to insure that the exposed asphalt doesn't 'fold' back onto it self. After the first piece is installed and the second piece is ready to install, remove the zip strip from the first piece and install it using the customary 3" overlap.

Insure that you have the subsequent piece placed correctly over the installed piece; you will not get an asphalt to asphalt bond apart!

The seal being asphalt to asphalt will cold flow together making the two pieces as one.



ZIP STRIP OVER
ASPHALT EXTNEDED EDGE



ASPHALT TO ASPHALT
BOND



YOU CANNOT PULL IT APART

Alumaguard has been in service on thousands of ducts and piping systems around the world, proving that a peel and stick, self-healing membrane is the perfect waterproofing system for exterior insulated systems.

The introduction of Alumaguard Extended Edge gives the specifier and contractor another product to select for a specific project.

The introduction of Alumaguard Lite for the bottom of the ducts eliminates the need to pin through the Alumaguard on the bottoms of the duct anymore. **HOWEVER, WE DO NOT RECOMMEND A THIN NON-HEALING MEMBRAND ON AN ENTIRE EXTERIOR DUCT SYSTEM.**

Complete installation instructions are available on our website, or by calling us.

Polyguard

www.polyguardproducts.com

Alumaguard Extended Edge is a specialty rubberized bitumen membrane with an exposed asphalt edge for a superior seal, designed specifically to be installed over insulation on exterior ductwork, refrigeration piping, chilled water piping, tanks, vessels, and equipment in cold temperatures. The membrane is 'peel and stick', self-healing if punctured, UV stable, and will expand and contract with the mechanical system. The membrane has excellent emissivity and sound attenuation properties.

Alumaguard EE is not, and should not, be used as a mechanical fastener. Band or pin insulation as needed.

Membrane Property	ASTM Test	Typical Results
	Method #	Alumaguard
Water Vapor Transmission [grains/(hr-ft²)]	E 96-00	0.0022
Permeance (US Perms)	E 96-00	0.0053
Water Vapor Transmission [grains/(hr-ft ²)] Compound Only	E 96-00	0.012
Permeance (US Perms) Compound Only	E 96-00	0.035
Peel Adhesion (to primed steel)	D 1000	> 12 LB/In Width
Elongation at Break	D 882	400%
Low Temperature Permeability	D 146 (modified)	No Cracks @ -31°F
Tensile Strength Backing	D 882 (Method B)	5000 PSI
Puncture Resistance Backing	E 154	> 40 LBS
Fungus Resistance Membrane	G 21-90	0 Growth
Sound Transmission Coefficient	E 90-97	0.18
Upper Temperature Limit		160° F
Overlap Bond Aging Test: (Lbs/1")		
Bond to itself (after 2 hours UV exposed)	D 1000	11.2
Bond to itself (after 3 days UV exposed)	D 1000	22.3
Low Temperature Peel Adhesion		
Peel Adhesion (overlap bond) @ -15° F	D 1000	19.5
Peel Adhesion (overlap bond) @ -31.5° F	D 1000	14.7

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ALUMAGUARD EE (Extended Edge)

INSTALLATION RECOMMENDATIONS

Ducts **must** be sealed in accordance with **SMACNA HVAC Duct Construction Standards Metal and Flexible - Second Edition (1995) Seal Class A** prior to insulation of ALUMAGUARD.

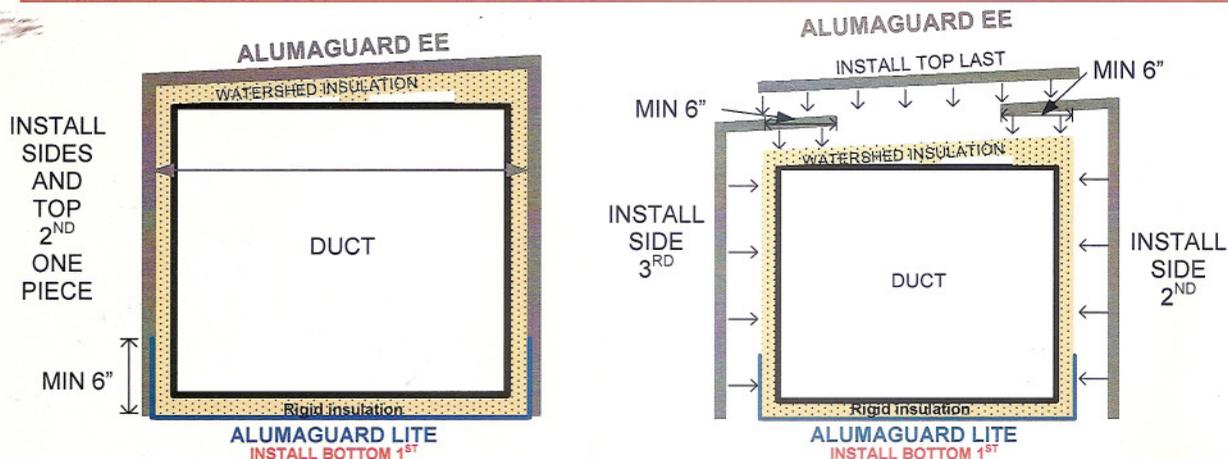
The introduction of ALUMAGUARD LITE, makes it unnecessary to pin through the membrane on the bottom of duct. The weight and construction of ALUMAGUARD LITE does not require mechanical support.

Hot and cold air ducts should be installed in the following manner to maintain proper vapor barrier and physical integrity; the board insulation should be mechanically installed on properly sealed duct according to the engineer's specification using insulation fasteners (mini-cup weld pins or perf. based pins and washers). Insulation on the top of the ductwork *should* be installed in such a manner as to allow for 'water shed' from the top of the duct to prevent water from 'ponding'.

Polyguard recommends faced rigid foam insulation (closed cell) for a smooth look, less seams, and superior R-Value per inch. Extruded polyisocyanurate and expanded polystyrene with a foil or polyethylene face.

Polyguard recommends our ALUMAGUARD EE system be installed according to one of the following procedures;

- Cut one piece of ALUMAGUARD LITE to cover the underside of the duct and up 6" on each side. **DUE TO THE POTENTIAL ABUSE POLYGUARD DOES NOT RECOMMEND THE APPLICATION OF ALUMAGUARD LITE TO THE ENTIRE DUCT, USE ALUMAGUARD, ALUMAGUARD EE, OR ALUMAGUARD LT ON THE TOP AND SIDES.**
- Cut two side pieces to fit from the bottom corner of the duct up over the top of the duct, lap over the top 6", **DO NOT FOLD A LAP UNDER THE DUCT.**
- Cut the final piece to cover the top, trim it flush with the top corners. Roll the ALUMAGUARD EE membrane as you remove the release film with a laminate roller to insure adhesion and lessen wrinkling, be careful of the asphalt strip when installing it., don't let it fold under and stick to the backing.



ALUMAGUARD EE can also be installed in a one piece application when duct size permits. Starting at the bottom of one side of the duct, go up the side, over the top, and down the other side trimming the Alumaguard flush with the bottom corner of the duct; **do not terminate the lap on the bottom of the duct!**

ALUMAGUARD EE must be protected from damaging chemicals; being rubberized bitumen, we will be 'solvated' when exposed to petroleum or coal tar based compounds. If you are unsure of the materials you will be subjecting our product to, please feel free to call us at 1-800-541-4994 for more information. Store ALUMAGUARD EE in a warm dry place prior to installation. For specific installation recommendations please call us for detail drawings as you require them.

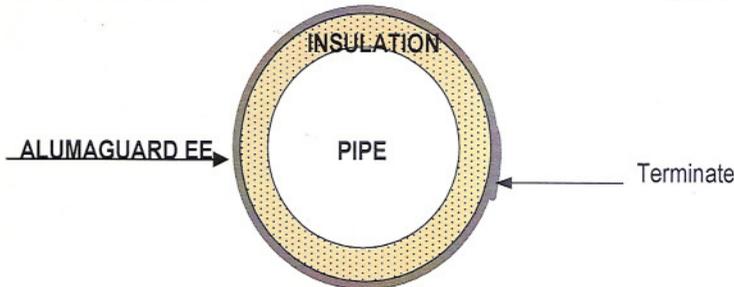
Polyguard

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ALUMAGUARD EE is an excellent cold piping jacketing system; superior to metal or PVC in performance. Its properties facilitate installation on cold systems **WITHOUT** the need for slip joints, eliminating a potential vapor breach. ALUMAGUARD EE will expand and contract with the piping system without rupture; minimal wrinkling may occur.

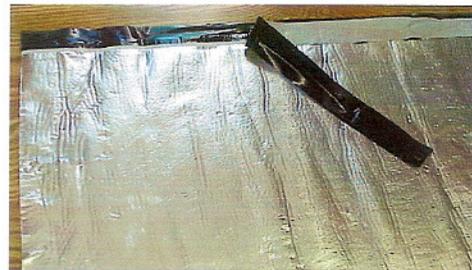
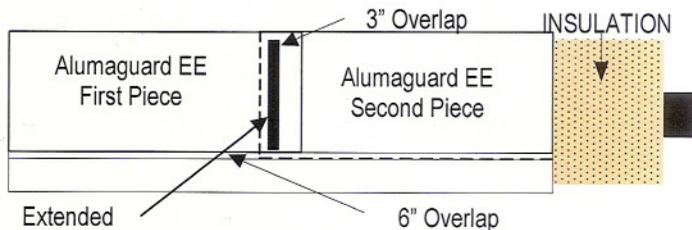
NOTE: ALUMAGUARD EE IS NOT TO BE USED AS A MECHANICAL FASTENER! Insulation must be installed (tape or bands) according to the manufacturers instruction. **DO NOT PAINT ANY ALUMAGUARD PRODUCT BEFORE READING OUR TECHNICAL BULLETIN SHEET, it can void your warranty!**

Installation is performed in a cigarette wrap method using a 3" longitudinal lap and a 6" circumferential lap. Cold piping systems jacketed with ALUMAGUARD EE should be installed in the following manner; the "stretch out" for each piece should be cut to allow a 6" lap over the circumference of the insulation. Install tightly around the pipe insulation so that your termination lap is faced down for watershed, rolling with a laminate roller or other firm "rolling pin" type roller to insure contact with the substrate. Install the first piece with the extended edge toward your continued work surface, handle the extended edge carefully when removing the release liner, as it does not have much support from the zip strip, seal the piece and remove the zip strip from the extended edge, making sure to rub down the asphalt edge prior to removing the zip strip. Each subsequent piece should install 3" over the previous piece so that you get an asphalt to asphalt seal under the lap. **YOU WILL NOT BE ABLE TO GET THE ASPHALT TO ASPHALT SEAM APART, SO BE CAREFUL WHEN YOU PLACE THE SECOND PIECE OVER THE FIRST!** ALUMAGUARD EE is not a mechanical fastener, insulation should be installed with strapping or banding according to manufacturers instruction. Alumaguard EE cannot be pre-applied to pipe insulation.



NOTE: Care should be taken when using any ALUMAGUARD product on a hot system, insure that the surface temperatures after insulation do not exceed our upper use limitations. It is important to note that heat transfer through single layer joint seams could result in the softening or melting of the rubberized asphalt compound.

Insulated piping exceeding 12" outside diameter requires the use of banding on Alumaguard EE.



Fittings, 90's, tees, valves, and 45's can be laid out using standard sheet metal methods, modified to allow for overlap, you would not use the extended edge portion for fittings. This can be accomplished by adding to the throat and heel of the fittings. The bottom piece is installed first, and then the top piece lapped over the bottom piece to permit water shedding over the lap. Tees, valves and other fittings can be fabricated just like you would use standard layout procedures, either two piece or gored fittings, simple add for the overlap. Fittings can also be 'gored', over sizing each gore piece to allow for a lap onto the preceding piece. Installers can also use standard metal fitting covers with the Alumaguard products. Care must be used to insure that the fittings are vapor sealed!

REV 4.3.07

SOLVENT BASE ACTIVATOR

SOLVENT BASED ACTIVATOR

A ROLLER-GRADE ACTIVATOR TO PROMOTE ADHESION OF POLYGUARD'S WATERPROOFING MEMBRANES IN LOW TEMPERATURES

Polyguard Low Temperature Activator is a rubber based adhesive in solvent solution which is specifically formulated to provide excellent adhesion with the *WATERPROOFING MEMBRANE*. Low Temperature Activator is an integral part of *WATERPROOFING/VAPOR BARRIER SYSTEM* and sufficient liquid adhesive must be used on surfaces to condition them so that the substrate is suitable for the application of *WATER-PROOFING MEMBRANES* in Low Temperature.

(NOTE: works excellent in warm weather for advanced adhesion also)

USES:

- Used as an Activator on insulation, insulation jacketing or other substrates on which Polyguard Water--proofing Membranes will be applied.
- Designed to be used on applications from 25°F (-4°C) to 100°F (38°C)
- Provides excellent adhesion for the bottom of large ducts, where, even after mechanical fastening, sagging could occur.
- **NOTE THAT THIS SOLVENT BASED PRODUCT WILL EAT SOME FOAMS** (Styrofoam) and a test patch should be applied before coating a large area of foam insulation.
- Recommended for application prior to installation of Polyguard membrane on a re-weatherproofing of a failed Fab/Mastic installation.

APPLICATION:

Low Temperature Activator may be applied with roller or brush. A roller with a heavy nap should be used, such to carry sufficient material to the area being primed.

Apply all **Low Temperature Activator** to a clean, dry, dust free, and frost-free surface with coverage of approximately 250 to 350 square feet per gallon. The liquid adhesive should be spread sufficiently to avoid areas of excess material. Areas of excess material will lengthen the drying time on the application of the **Low Temperature Activator**. **Low Temperature Activator** is to dry a minimum of 1 hour, and drying time will vary with atmospheric conditions.

This product is red in color and will remain tacky when dry. The application of liquid adhesive should be limited to what can be installed with membrane in one working day. Any areas not covered with membrane during the day must be re-primed, and be sure to cover all open containers when not applying liquid adhesive.

POLYGUARD Low Temperature Solvent Base Activator vapors are flammable! Review Material Safety Data Sheet (MSDS) for this product and follow safety instructions listed therein and refer to product label for handling precautions.



Polyguard

www.polyguardproducts.com

WATER BASE ACTIVATOR

WATER BASED ACTIVATOR

A ROLLER-GRADE ACTIVATOR
TO PROMOTE ADHESION OF POLYGUARD'S WATERPROOFING
MEMBRANES IN LOW TEMPERATURES

Polyguard Low Temperature Activator is a water-based adhesive, which is specifically formulated to provide excellent adhesion when working conditions prevent solvent-based Activators from being used. **Polyguard's Low Temperature Activator** is an integral part of **POLY-GUARD'S "WATERPROOFING/VAPOR BARRIER SYSTEM"** and sufficient liquid adhesive must be applied to enhance the adhesion of **POLYGUARD WATER-PROOFING MEMBRANES** during low temperature outdoor applications. (NOTE: works excellent in warm weather for advanced adhesion also)

USES:

- Used as an Activator on insulation, insulation jacketing or other substrates on which Polyguard Water--proof-ing Membranes will be applied.
- Designed to be used on applications down to 35°F. (1°C).
- Provides excellent adhesion for the bottom of large ducts where sagging, even after mechanical fastening, could occur.
- NOTE THAT THIS WATER BASED PRODUCT IS SAFE TO USE ON ALL FOAM INSULATIONS
- Recommended for application prior to installation of Polyguard membrane on a re-weatherproofing of a failed Fab/Mastic installation.

APPLICATION:

Low Temperature Activator may be applied with roller or brush. A roller with a short nap should be used, such to carry sufficient material to the area being primed. Porous surfaces may require re-application.

Apply all **Low Temperature Activator** to a dry frost-free surface with coverage of approximately 350 to 450 square feet per gallon. The liquid adhesive should be spread sufficiently to avoid areas of puddled primer. Areas of excess material will lengthen the drying time on the application of the **Low Temperature Activator**.

Low Temperature Activator is set when the surface is tacky but not wet; drying time will increase during humid atmospheric conditions. (water based adhesives evaporate to dry, solvent based adhesives 'flash off')

This product is white in color and will remain tacky when dry. The application of liquid adhesive should be limited to what can be installed with membrane in one working day. Any areas not covered with membrane during the day must be re-primed, and be sure to cover all open containers when not applying liquid adhesive.

SAFETY, STORAGE AND HANDLING INFORMATION:

Review Material Safety Data Sheet (MSDS) for this product and follow safety instructions listed therein and refer to product label for handling precautions.

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- Dutch Council for Certification
- Deutscher Akkreditierungs Rat

ALUMAGUARD



WARRANTY

POLYGUARD PRODUCTS, INC. hereby warrants that for a period of ten (10) years from the date of installation completion of Polyguard's Alumaguard products at the project installation:

- Water will not leak directly through any individual Polyguard Alumaguard membrane as a result of deterioration of the membrane caused by ordinary wear and tear and the effects thereof; and
- Alumaguard will bridge ruptures caused by cracking or separation of the immediate insulation substrate up to 1/16th of an inch in width. Excluding Alumaguard Lite.

If at any time during such ten (10) year period the Polyguard Alumaguard does not perform as warranted above, then **POLYGUARD PRODUCTS, INC.** will supply replacement Polyguard Alumaguard in exchange for and to the extent that Polyguard Alumaguard is found by **POLYGUARD PRODUCTS, INC.** not to comply with this warranty.

This warranty does not apply to any Alumaguard membrane unless installed and maintained to conformance with the printed instructions of **POLYGUARD PRODUCTS, INC.** from time to time in effect. Further, this warranty does not cover damage caused by abuse or abnormal use of the Polyguard Alumaguard membrane, acts of God, or to inadequate or faulty design of the subject project (except as specified in Clause 2 above) and to repairs or installations made by other persons not approved by **POLYGUARD PRODUCTS, INC.**

The painting of any Alumaguard product will void it's performance warranty.

The foregoing warranty is exclusive and is in lieu of any and all guarantees or warranties, express or implied, including without limitation the implied warranty of merchantability and fitness for a particular purpose. The remedies of the buyer for any breach of this warranty shall be limited to those herein provided to the exclusion of any and all other remedies, including without limitation incidental or consequential damages.

POLYGUARD PRODUCTS, INC. shall not be liable in any case for any damage to the building or the contents thereof. No agreement varying or extending the foregoing warranty remedies will be binding upon **POLYGUARD PRODUCTS, INC.** unless in writing, signed by a duly authorized officer of **POLYGUARD PRODUCTS, INC.**

A separate project information form **must** be completed to authenticate this warranty.

REV 4.01.01

PRESSURE RELEASE VALVE

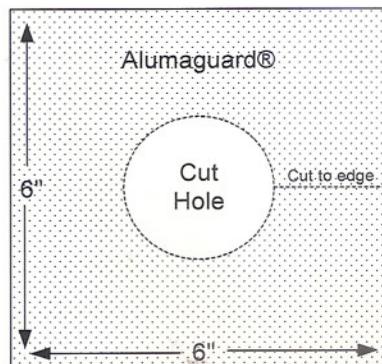
ONE-WAY PRESSURE RELEASE VALVE

One of the paramount features of **Alumaguard** is its aggressiveness and how well it adheres to foil substrates creating an incredible seal! In fact, it seals so well that IF you have substantial air leakage from a poorly installed duct, we will bubble and balloon and it is possible to pull the FSK paper off the substrate.

To relieve pressure related stress, we now sell a miniature air release valve which can be installed in the bottom of the duct to relieve air pressure. Install as many as are required; if the system has been ballooned for a long period of time, the bubbles may not re-



Simply cut a hole the size of the screw portion of the valve (make sure the arrow is facing out – if the label is gone, blow in it, it will only blow one way) in the **Alumaguard**, insert the valve so that the PVC disk is flush to the valve and the **Alumaguard**. Cut a 6" square piece of **Alumaguard**, cut a hole in it the size of the valve body, slit it to one edge, remove the release liner and apply it around the valve to seal the installation. **DO NOT INSTALL** valves on the top of the duct! They must be protected from rain entering them.



REV 4.3.07

Polyguard

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ALUMAGUARD

ALUMAGUARD – Short Project List

Polyguard has been approved, specified, and installed on the following projects:

Bay State Gas

Alumaguard on LNG Piping (-320F) over Styrofoam
Boston, MA

Kraft Foods

Alumaguard on Ammonia Refrigeration Piping over Polyiso
Roswell, NM

Houston ISD

Alumaguard on 6 schools, CHW Piping over Fiberglass & Styrofoam
Houston, TX

Pillsbury

Alumaguard on Ammonia Refrigeration Piping over Styrofoam
Denison, TX

Earth Grains Foods

Alumaguard on Ductwork over Armaflex
Paris, TX

West Publishing

Alumaguard Fumes evacuation ductwork over Mineral Wool
Minneapolis, MN

Pilgrims Pride Chicken

Alumaguard Ductwork over Styrofoam
Paris & Nacogdoches, TX

Medical City

Alumaguard on Ductwork over Fiberglass
Dallas, TX

Spring Wheat Bakery

Alumaguard on Ductwork over Styrofoam
Atlanta, GA

IBM

Alumaguard on Ductwork over Styrofoam
Burlington, VT

Tampax

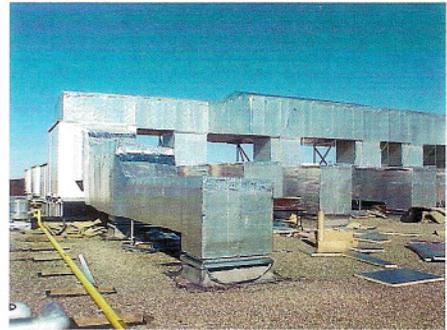
Alumaguard on Ductwork over Styrofoam
Lewiston, ME

E.I. DuPont

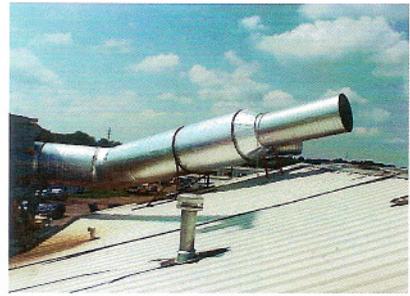
Alumaguard on CHW piping & ductwork over Styrofoam
Spruance, VA

Dean Foods

Alumaguard on Ductwork over Styrofoam
Knoxville, TN



CONTINUED ON BACK



MISD

Alumaguard on 3 schools Ductwork over Fiberglass
Minneapolis, MN

BISD

Alumaguard on 2 schools Ductwork over Styrofoam
Burlington, VT

Children's Hospital

Alumaguard on CHW piping & ductwork over Fiberglass
Seattle, WA

INTEL

Alumaguard on Ductwork over Styrofoam
Seattle, WA

Super-Valu Foods

Alumaguard on Ammonia Refrigeration Piping over Styrofoam
Ft. Wayne, IN
Alumaguard on Ammonia Refrigeration Piping over Styrofoam
Champaign, IL

Garth Brooks Residence

Alumaguard Ductwork over Fiberglass
Tulsa, OK

Omni Hotel, Champions Gate

Alumaguard on Ductwork over Styrofoam
Orlando, FL

Kraft Foods, Tombstone Pizza

Insulrap 30 SJ on Ductwork over Styrofoam
Medford, WI

Houston Intercontinental Airport

Alumaguard on Ductwork over Styrofoam
Houston, TX

Memorial Hospital

Alumaguard on Ductwork over Fiberglass
Springfield, IL

Summit High School

Alumaguard on Ductwork over Fiberglass
Summit, NJ

Sea World

Alumaguard on Ductwork over Cellular Glass
Alumaguard™ on CHW Piping over Cellular Glass
Orlando, FL