

LOW-E Insulation Installation Instructions

An Air Space is Needed for Efficiency, Please Allow the Insulation to Sag in Your Roof System. DO NOT PULL TIGHT!!

These instructions are intended to cover most new building installations. Please be aware that it does not include all installation instructions. Please consult local building/fire code officials before installing.

Wall Application: This material is to be installed from top to bottom, eave strut to the ground or rake angle to the ground, (perpendicular to the girts).

1. Start at one end of the wall you are about to sheet.
2. Make sure the material is square with the wall.
3. Using C-Clamps and a block of wood, secure the material to either the rake angle or eave strut.
4. Place double-sided adhesive tape around entire bottom perimeter of the building on the outside of the metal plate. Steadily, unroll the material to the ground, adjust roll so seams line up evenly then secure the bottom of the roll to the double-sided adhesive tape.
5. Go back to the top of the wall.
6. Repeat steps 2 and 3.

If The Product has the Staple Flange Edge (see illustration 1.1 on page 3):

7. Bring the foam edges tightly together with **both flanges** (no foam in them) towards you.
8. Roll both flanges together securely keeping foam edges tightly together.
9. Staple the flanges close to the foam with a heavy-duty plier stapler every 2-3 inches.
10. Then put closure strips over insulation and cut off excess.
11. Be sure to leave enough overlap to insure that the material will not pull apart after panels are installed.
12. Repeat steps 5 thru 11 till you complete the area to be insulated.

If The Product has the E-Z Seal Edge (see illustration 1.2 on page 3):

7. Fold back the insulated tab on the leading edge of the run you just finished.
8. Fold back the insulated tab on the trailing edge of the run you are about to install. It will contain double-sided adhesive tape.
9. Butt the folded edge of the new run tightly against the folded edge of the run, which is already in place.
10. Peel off the release paper from the double-sided adhesive tape.
IF THE TAPE ISN'T STICKING DUE TO MOISTURE IN THE AIR STAPLE EVERY 2-3 INCHES & DON'T USE THE TAPE TAB TO SEAL THE EDGE.
11. Press the two insulated tabs tightly together making certain they are even. Place your thumb and fingers in the groove and use as a guide as you work down the wall NOTE. For best appearance and easiest installation it is advisable to complete the process in steps 10 & 11 a foot or so at a time as you unroll down the wall.
12. Using a heavy-duty plier stapler, staple taped seam every 6 – 12 inches.
13. Steadily unroll the run down the wall, about a foot or so at a time, continue using the process described in steps 10 and 11.
14. Then put closure strips over insulation and cut off excess.
15. Be sure to leave enough overlap to insure that the material will not pull apart after panels are installed.

Repeat steps 5 thru 15 till you complete the area to be insulated

If The Product has a Trimmed Edge:

7. Butt the edges of the insulation together.
8. Starting at one end of the edges, pull the paper backing off of the tape to apply the seam tape.
9. While applying the seam tape use the plastic squeegee (provided for you) to bond the insulation and the seam tape together. This is done by taking the plastic squeegee and firmly pressing down, running it the length of the tape. If done correctly, you will see that the seam tape blends in with the insulation. (If the squeegee is not used, the seam tape will not adhere itself to the insulation and the seams will possibly come loose over time.)
10. Apply small sections at a time, making sure that you are bonding the seam tape to the insulation.
11. Once you reach the end of your length, use a razor knife or a pair of scissors to cut the seam tape. Tearing the tape may stretch it and the adhesive; this puts an undue strain on the tape and will hamper its performance.
12. Place closure strips over the insulation
13. Repeat steps 5 thru 11 till you complete the area to be insulated

Roof Application: The installation is basically the same except for using a double/sided adhesive tape around the roof perimeter or fold a small section of the material back over itself and secure to the eave with a fastener every 6-12 inches.

It is important to have an airspace between the roof decking and the Low-E. This is achieved by draping the Low-E, allowing it to sag. ¼"-1".

All splices made on wall sections should be placed behind the girts. This will conceal the splices and help to maintain a completely uniform appearance. To do this, go to the girts immediately above and below the defective or damaged material and cut out from these lines. This will allow you to make your splice behind the girt. Exposed seam must be taped with Low-E Seam tape.

All splices made on roof sections should be placed on the purlins. Place double sided tape on last purlin covered by Low-E insulation to secure end. Trim end to cover ½ of purlin, secure it to the double sided tape. Butt next roll to the other ½ of purlin. Exposed seam must be taped with Low-E Seam tape.

Procedure for making a splice: 1. Cut a piece from another roll a little larger than the area to be removed. Overlay the ends of the two pieces to be spliced together. 2. Cut through the two pieces using a straight edge, to create a common edge. 3. Butt the two edges tight together. 4. Tape the seam on both sides using the manufacturer provided aluminum seam tape.

LOW-E SEAM TAPE MUST BE CUT BEFORE APPLYING. **DO NOT RIP OR TEAR.** RIPPING OR TEARING CAN NEGATIVELEY AFFECT THE ADHESIVE. WHEN APPLYING LOW-E SEAM TAPE, BE SURE TO USE THE SUPPLIED SQUEEGEE TO ENSURE THE TAPE IS PROPERLY ADHERED. WHEN USING TAPE TO MAKE REPAIRS, RUN TAPE PARRALLEL WITH THE INSULATION. *****NEVER RUN TAPE AT AN ANGLE.**

NOTE: LOW-E seam tape can also be used as a patch material to cover up and repair any cracks or tears in the LOW-E. Please refer to the above instructions for the application of LOW-E seam tape. Any tears or punctures in the insulation shall be repaired by the appropriate Low-E Seam tape.

NOTE: When installing above a framed opening i.e. (a dock door) be sure to wrap the material around the door header to the inside of the building. The door installers can then trim any excess LOW-E out of the way. This procedure will ensure that there will not be a gap in the insulation after the door is installed.

NOTE: If any defective or damaged material is encountered simply cut out the bad section and splice the remaining material together.

Local building codes shall be followed to ensure proper installation. The thermal performance of Low-E Insulation in these installations are based on the maintenance of a totally enclosed air space adjacent to the low emittance surface(s). Thermal values for this product are defined by typical installations and are obtained in accordance to accepted test methods and are subject to manufacturing variations. They are supplied as a technical service and are subject to change without notice.

These products should never have a foamed edge exposed. Seams that are exposed to conditioned space must be taped with Low-E Seam tape.

No insulation products should be left exposed in a ceiling that is 10' high or less. Add Gypsum board or another type of fire wall. Consult your local building/fire codes to ensure that the proper material is used if this situation does occur.

These products should not be overlapped.

Never interfere with the design ventilation of the building when installing any form of insulation.

Never expose any insulation to any fire source.

Insulation shall be stored in a protected area. Do not let insulation come in contact with wet or damp concrete at any time.

***PLEASE DO NOT WALK ON INSULATION WHEN IT IS CUT BEFORE INSTALLATION
IT IS EXTREMELY IMPORTANT TO LINE THE SEAMS UP STRAIGHT IN ALL APPLICATIONS BEFORE YOU SECURE THE INSULATION.***

PRODUCT IDENTIFICATION

Product Name , Code #: Low-E, L#### or #L###; Micro-E, M#### or #M###; Ultra-E, U#### or #LUL#; Econo-E, E#### or #E###; Vapor Plus, V#### or #V###

Other Product Identifiers: Code #'s

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CHEMICAL & PHYSICAL PROPERTIES

Color: Aluminum, White
Physical State: Solid
Boiling Point: N/A
Freezing Point: N/A
Vapor Density: Not Volatile
Melt Point (foam): 98-106° C
Product Type: Foil / Polyethylene foam / Polyethylene film
Odor: None
Specific Gravity (foam): 0.02 - 0.04
Bulk density: 1.0 - 1.2 lb./cu. Ft.
Percent Volatile: Nil
Hazardous Ingredient: None
Family / Chemical name: Plastic / Aluminum / Polyethylene
Flammable Limits: N/A

Decomposition/Combustion Products: Thermal decomposition may include carbon monoxide, carbon dioxide, aldehydes and organic vapors.

FIRE PROTECTION INFORMATION

Flash point (foam core): Above 450° F Recommended extinguishing media:

CO2, water, Dry Chemical, Foam

Polymerization: Will not occur

Stability: Stable

Toxic products which may form: No toxicity, safe physical form

STORAGE AND REACTIVITY

Storage Conditions: Store large quantities in area protected by automatic sprinklers

TRANSPORTATION

Hazard classes: None - not hazardous

Hazard labels: None required

Hazard determination: Material safety data

Size shipping container: Varies according to product ordered

HEALTH HAZARD DATA

Short term exposure

Route of entry: Precautionary treatment

Inhalation: N/A

Skin: Wash affected area with soap and water

Eyes: N/A

Ingestion: Contact poison control data

Long term exposure

Carcinogen: None

Target organ effects: None

Other health hazards: None known

PERSONNEL PROTECTION

Respiratory Protection: None required

Protective clothing: None required

Other protective measures: None

SPILL OR LEAK PROTECTION

Steps to be taken: N/A

Other impacts on wastewater treatment:None

Recommended wastewater treatment: N/A

RECOMMENDED WASTE DISPOSAL METHOD

Unused material: Reuse, if possible. If unavailable, incinerate or dispose of in government approved solid waste landfill

CONTAINER LABELING

Container disposal: N/A

Hazardous disposal: N/A

Explanation of unique labeling system: None used

Product Guarantee

Low-E Insulation products are guaranteed against defects in material and workmanship for 20 years. Blister or bubbles in product surface will not affect performance. Product thickness for products with foil on both sides may vary +/- 10%. All other products may vary +/- 20%.

Defective Material

The following criteria may be considered a defect;

(1.) 1 inch wide or more of foil delamination on the edges for more than 15 feet of the roll.

(2.) More than 1 inch of foam showing on 20 feet or more of a roll.

(3.) Large areas (more than 1 square foot) of delaminated foil.

Corrective Instructions

Occasionally there may be imperfections in product that may affect appearance but not performance. In the event this is encountered, the following solutions are advised;

(1.) If there is foam showing on one side, either tape the seam on that side when installed or install product with the foam side in.

(2.) If there is an edge that is delaminated, either tape the seam on that side when installed or install product with delaminated edge in.

(3.) If there are areas that have a delamination that cannot be installed without correcting this defect, the following may be done with an iron;

set the iron about half to three quarters temperature setting. Make a small slit with a razor knife in the center of the delamination and carefully, with light pressure, iron the foil towards the slit, allowing trapped air to escape. When finished, cover the slit with a small piece of Low-E tape.

Return Policy

(1.) It is our opinion that our Distributors should handle customer problems directly and ESP in turn will issue a credit or replace materials to the Distributor. The Distributor must make available to ESP a copy of the product label or the information on the label [lot#, initials, product description], samples of the defect, or the roll of material. Upon inspection of the defect, ESP will credit or replace defective material at ESP's discretion. If a section of a roll is bad, remove the bad area and use the rest of the roll. Retain the bad section and label information for credit. If label is not available, return the bad section.

(2.) All labels on the product must be saved for verification. If label is not sent back with completely filled out complaint form, the complaint will not be acknowledged. If everything is in order on the complaint form and sheets and ESP requests the return of the roll, ESP will pay the shipping, however no material is to be returned without ESP approval.

(3.) If the customer elects to keep all the product that is considered seconds, and the complaint forms and labels are sent back, ESP will credit the customer for the difference in first quality and second quality pricing.

(4.) If the product is shipped out of the continental United States, the representative is totally responsible for all replacement costs and shipping charges of the material.

ABSOLUTELY NO SHIPPING CHARGES WILL BE ACCEPTED WITHOUT APPROVAL FROM ESP

ASTM standard test method for surface burning characteristics of building materials:

This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled laboratory conditions. ESP Low-E® products are tested within the strict standard of this test method. This test method is not necessarily representative of the manner in which the ESP Low-E® products are installed in a typical field installation. The numerical ratings on all ESP Low-E® insulation products or any other materials are not intended to reflect hazards under actual fire conditions.

Warning:

Aluminum is an Electrical Conductor. Please use caution when working around electrical sources including overhead power lines.

HVAC And Specialty LOW-E Insulation Installation Instructions

These instructions are intended to cover most new construction. Please be aware that it does not include all installation instructions. Please consult local building/fire code officials before installing.

If The Product is the Low-E Tab Material:

1. Unroll material and cut to desired length
2. Fit material between studs allowing a minimum of 3/4" air space above and below the material
3. Staple the tabs of material to the inside of the stud every 12"-18"
4. You may need to cut Low-E Tab Insulation to fit into corners
5. When stapling do not staple through or near any type of wire or electrical source. Cut around any electrical boxes.

Wall Application finishing instructions: Tape all seams: sides, top and bottom and any exposed foam edge

Roof Application finishing instructions: Allow 3" gap at ridge and eave for ventilation purposes. If they are cardboard baffles at the eaves, staple Low-E Tab Insulation to them, make certain that all mass insulation is below the Low-E Tab Insulation and that the soffit ventilation from the eave is flowing above the Low-E Tab Insulation. Tape all seams and any exposed foam edge

Radiant heat floor joist application: allow a 2"-3" air gap between pipes and insulation, tape all seams both at along the sides and ends of the run and any exposed foam edge

Floor joist application: install material with as much air space as possible above the insulation and tape all seams and any exposed foam edge

If The Product is the Slab Shield Material (see illustration 1.3 on page 3):

This Product Has Not Been Fire Rated And Is To Be Used Beneath Concrete Slab

1. Cut material to desired length and roll out in place directly over stone or gravel
2. Cut second run of material and overlap 3" over the first run of material so that tabs fit together, you may have to flip to ensure.
3. Use manufacturer's seam tape and bandage the seams every 12" (High quality duct tape may be substituted)
4. Lay meshing and tubing or rods directly over product
5. Pour Slab

Always Follow Manufacturer's Recommended Installation Instructions

NOTE: This product should not be overlapped at full thickness, it is designed to be overlapped at the tabbed edges.

If The Product is the Low-E Duct Wrap Insulation:

Rectangular Duct:

When installing LOW-E Duct Wrap around rectangular duct systems, first apply the 1/2" thick spacer blocks (if provided) over each corner of the duct, spaced approximately every 18 inches. Place spacer blocks directly on any elbows made in the duct. If no spacers are provided, scrap material may be used as spacing material. An airspace 1/2" or greater is ideal for thermal efficiency.

1. Measure the outside dimension of the duct
2. Cut the LOW-E insulation using a utility knife approximately 4 inches longer than the OD
3. Place spacers or scrap material to create airspace.
4. Wrap the LOW-E Duct Wrap insulation around the duct.
5. Use UL 181 approved tape to seam or join the wraps of insulation. Smooth, firm application of the tape will assure an air tight seal and eliminate tape separation.
6. Apply data stickers (provided) wherever necessary for inspection.

Round Duct:

When installing LOW-E Duct Wrap Insulation on round ducts, follow the same procedures as above with the following modifications. Spacer blocks (or material) must be placed in such a way as to prevent the duct wrap from touching the duct work. Spacing will depend on the diameter of the duct.

Always Use UL 181 approved tape in your HVAC system.

Local building codes shall be followed to ensure proper installation. Thermal values for this product are defined by typical installations and are obtained in accordance to accepted test methods and are subject to manufacturing variations. They are supplied as a technical service and are subject to change without notice.

NOTE: If any defective or damaged material is encountered simply cut out the bad section and splice the remaining material together.

Procedure for making a splice: 1. Cut a piece from another roll a little larger than the area to be removed. Overlay the ends of the two pieces to be spliced together. 2. Cut through the two pieces using a straight edge, to create a common edge. 3. Butt the two edges tight together. 4. Tape the seam on both sides using LOW-E SEAM Tape or UL 181 approved tape if using Low-E HVAC Duct Wrap.

LOW-E SEAM TAPE MUST BE CUT BEFORE APPLYING. **DO NOT RIP OR TEAR.** RIPPING OR TEARING CAN NEGATIVELEY AFFECT THE ADHESIVE. WHEN APPLYING LOW-E SEAM TAPE, BE SURE TO USE THE SUPPLIED SQUEEGEE TO ENSURE THE TAPE IS PROPERLY ADHERED. WHEN USING TAPE TO MAKE REPAIRS, RUN TAPE PARRALLEL WITH THE INSULATION. *****NEVER RUN TAPE AT AN ANGLE.**

Seams that are exposed to conditioned space must be taped with LOW-E SEAM Tape or UL 181 approved tape if using Low-E HVAC Duct Wrap.

No insulation products should be left exposed in a ceiling that is 10' high or less. Add Gypsum board or another type of fire wall. Consult your local building/fire codes to ensure that the proper material is used if this situation does occur.

This product should not be overlapped.

This product should never have a foamed edge exposed (except Slab Shield prior to slab pour).

Never interfere with the design ventilation of the building when installing any form of insulation.

Never expose any insulation to any fire source.

Insulation shall be stored in a protected area. Do not let insulation come in contact with wet or damp concrete (except Slab Shield) at any time.

Any tears or punctures in the insulation shall be repaired by the appropriate UL 181 tape.

Warning:

Aluminum is an Electrical Conductor. Please use caution when working around electrical sources including overhead power lines. In areas where insulation is to be installed, components of the electrical system shall be in good condition. If the electrical system is found to be faulty, proper inspection and repair shall be accomplished.

Inspect the roof, walls, ceilings, and floors to identify area where a previous or existing moisture problem has caused paint peeling, warpage, stain, visible fungus growth, rotting, or other structural damage. Do not install insulation in such areas until these conditions have been corrected and their source(s) eliminated.

In the areas where insulation is to be installed, the applicator shall locate and plan for subsequent blocking around recessed lighting fixtures, motors, fans, blowers, heaters, flues, chimneys, and other heat-producing electrical or mechanical devices. Securely fasten blocking, such as wood, metal, or unfaced mineral wool batts, around all heat-producing devices to permanently maintain the specified clearances. Install all required blocking at least as high as the height of the finished insulation and in a manner that ensures all devices that require maintenance of servicing remain accessible after the insulation is installed. Install blocking to provide a minimum three inch (76 mm) clearance around all sides of recessed lighting fixtures, unless such fixtures are approved for Installation in direct contact with insulation, including fixture wiring compartments and ballasts and other heat-producing devices not covered with thermal insulation.

The open area above heat producing devices must not be covered, unless they are specifically approved devices for operation when covered with thermal insulation.

Install blocking around gas-fired appliances to provide the minimum clearances specified in NFPA-31. Install blocking around masonry chimneys or masonry enclosing a flue to provide a minimum 2-in. (50-mm) clearance from the chimney, and vent connectors and chimneys other than masonry chimneys to provide the minimum clearances specified in NFPA-211.

Please follow Fall Protection Guidelines for your area.

ASTM standard test method for surface burning characteristics of building materials: This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled laboratory conditions. ESP Low-E® products are tested within the strict standard of this test method. This test method is not necessarily representative of the manner in which the ESP Low-E® products are installed in a typical field installation. The numerical ratings on all ESP Low-E® insulation products or any other materials are not intended to reflect hazards under actual fire conditions.

These instructions supersede other existing instruction sheets.

ESP will not be responsible or liable for any damages or injuries incurred resulting from improper installation

Warning: Although ESP Low-E® Insulation Products are all ASTM fire tested and have excellent fire ratings; it is recommended that they or any insulation material should not be exposed to open flame or other ignition sources of sufficient intensity during shipment, storage or installation.



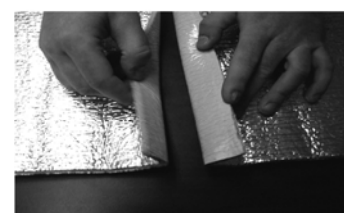
Illustration 1.1

1. Peel paper from strip

2. Fold back both tabs

3. Stick adhesive side to non adhesive side

4. Staple "Staple every 12" for best results"



1. Pelar el papel del liston

2. Doble ambas orillas

3. Pegue el lado adhesivo al no adhesivo

4. Engrape "Para mejor resultado engrape cada 12" "

Illustration 1.2



Illustration 1.3