

LOW-E

SOUTHWEST DISTRIBUTION PRODUCT CATALOG



ESP LOW-E® REFLECTIVE INSULATION

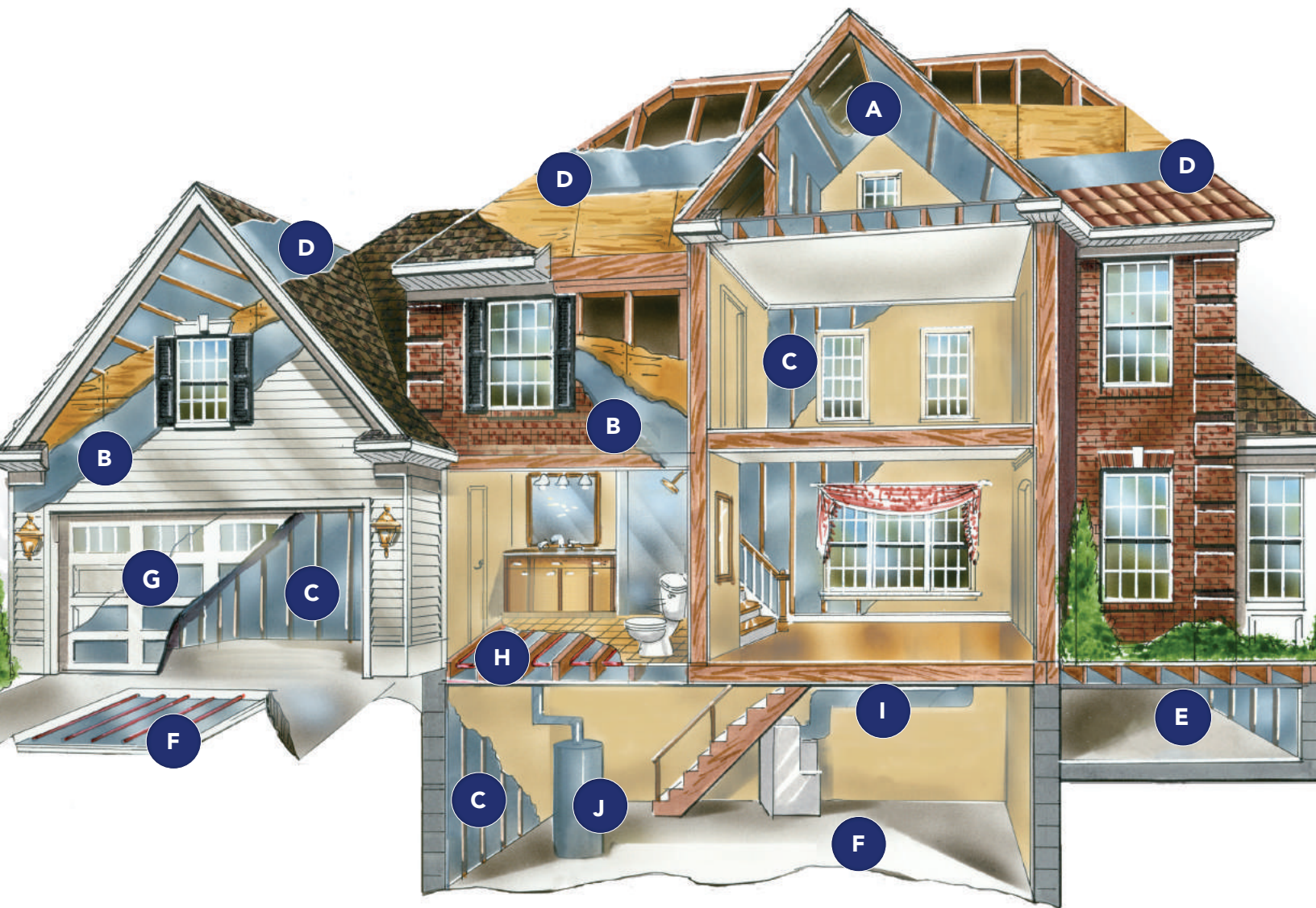
Energy-Efficient Products for
Residential & Commercial Building

LIMITLESS APPLICATIONS

ESP LOW-E® Reflective Insulation is manufactured by Environmentally Safe Products, Inc.
in New Oxford, Pennsylvania and Carson City, Nevada

(877) 565-5693

WWW.LOWESOUTHWEST.COM



A ATTICS

Attic Floor Insulation - Floor Only
LOW-E - Rafters (with support strips)
Tab - Rafters & Trusses

B UNDER EXTERIOR FINISHES

House Wrap - All Veneers & Stucco
House Wrap - Siding

C WALLS

LOW-E / Micro-E - Basement Walls
Tab - Stud Cavities

D ROOF SYSTEMS

LOW-E / Micro-E - Draped across Rafters & Trusses
Therma Sheet - Clay & Concrete Tile, Metal, Stone Coated Steel
Therma Sheet - Under Composite Shingles (where approved)

E SUB-FLOORS

Tab / LOW-E / Micro-E - Basements, Crawl Spaces, Mid-Level Floors

F CONCRETE

Slab Shield - Under Concrete Slabs, Pavement, Snow Melt

G GARAGE DOORS

Class-A White / LOW-E

H RADIANT FLOORS

Slab Shield - Under Concrete
LOW-E / Tab - Wood Floors

I LOW-E / Duct Wrap - Ducts & Pipe Wrap

J Water Tank Jacket Kit - Water Heaters

Energy-efficient, green building is no longer a trend but rather a cornerstone of modern residential and commercial construction. Building performance, along with sustainable building practices and materials are now all top-of-mind for homeowners, builders and architects, along with healthcare, government and educational entities.

Green construction uses 30 percent less energy than conventional buildings and offers lower operation and maintenance costs. Sustainable building techniques also increase productivity and profitability as they improve the overall air quality and create a better indoor environment.

As sustainable building awareness steadily increases, commercial and residential builders will continue to adapt to meet the complete needs of their clients. Whether in a stable or turbulent economic climate, homeowners and commercial building owners alike are seeking out methods to reduce their monthly utility costs. On the commercial property front, building owners possess a strong marketing tool to attract tenants committed to environmental responsibility, employee productivity and energy cost savings.

LOW-E Reflective Insulation functions as a "stand alone" product that is incorporated throughout every aspect of construction. When used in conjunction with mass insulation, LOW-E enhances the "insulation system performance" to help create a more complete building envelope.

Manufactured using 99.4% pure polished aluminum, heat bonded to closed cell polyethylene, LOW-E reflects energy in BOTH directions back to the source, which assists in stabilizing temperatures in conditioned spaces, reducing energy consumption and lowering utility costs.

Discover how easily LOW-E Reflective Insulation's energy-efficient products can be incorporated into the entire spectrum of construction with applications that create energy savings from the "ground up."

KEY ADVANTAGES

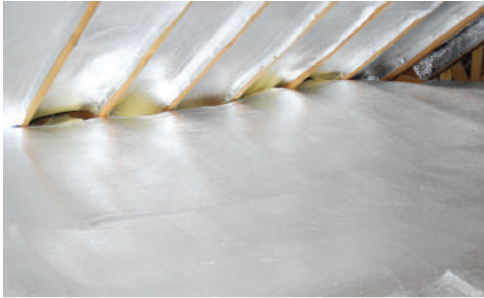
- ▶ .03 EMISSIVITY
- ▶ RESISTANT TO HEAT TRANSFER
- ▶ INCREASES R-VALUES
- ▶ MOISTURE AND VAPOR BARRIER
- ▶ CREATES A THERMAL BREAK
- ▶ CLASS-A RATED (ASTM E-84)
- ▶ ICC CERTIFIED HOUSE WRAP
- ▶ QUALIFIES FOR LEED CREDITS
- ▶ PERM RATING OF .008 (NON-PERFORATED PRODUCTS)
- ▶ CALIFORNIA TITLE 24 COMPLIANT
- ▶ MEETS "GREEN BUILDING" STANDARDS
- ▶ QUALIFIES FOR LOCAL, STATE, AND FEDERAL TAX CREDITS
- ▶ CALIFORNIA "COOL ROOF" ALTERNATIVE
- ▶ MEETS ASHRAE 90.1 BUILDING & ENVELOPE REQUIREMENTS
- ▶ HIGH CRUSH AND PUNCTURE RESISTANCE RATINGS
- ▶ CERTIFIED SOUND BARRIER RATING

RESIDENTIAL ■ COMMERCIAL ■ NEW CONSTRUCTION ■ RETROFIT

ESP LOW-E® REFLECTIVE INSULATION

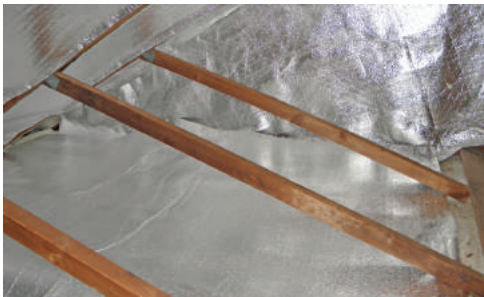
Attic Floor

RESIDENTIAL APPLICATION



Attic Floor & Tab Insulation

The easy and cost-effective way to reduce energy usage. Simply **roll out** across the attic floor!



Attic Floor & Tab Insulation

KEY ADVANTAGES

- ▶ Non-toxic and hypo-allergenic
- ▶ Does not promote mold growth
- ▶ Reduces attic heat gain and loss
- ▶ Improves insulation system performance
- ▶ Works in conjunction with mass insulation
- ▶ Perforated material allows moisture to escape
- ▶ Limits pre-loading of existing insulation to increase efficiency



Attic Floor & Tab Insulation

ESP LOW-E® Attic Floor is designed for use in residential attic floor spaces only

ESP LOW-E® REFLECTIVE INSULATION

Class-A White

COMMERCIAL ■ AGRICULTURAL ■ METAL BUILDINGS



White aluminum facing provides a **clean and bright interior finish** for exposed ceilings and walls.



KEY ADVANTAGES

- ▶ Creates a thermal break and vapor barrier
- ▶ Insect, bird and rodent resistant
- ▶ Great for new construction or retrofits
- ▶ Promotes a healthier indoor environment
- ▶ Installed commercially in walls, rafters and trusses
- ▶ Can be used in conjunction with mass insulation to create higher R-values
- ▶ Low flame and smoke ratings achieved without the use of toxic flame retardant or hazardous core material



EZ-SEAL EDGE

Designed to make installation easier and more efficient with self-adhesive tape that creates a strong seam and vapor barrier.

ESP LOW-E® REFLECTIVE INSULATION

LOW-E

COMMERCIAL & RESIDENTIAL APPLICATIONS



Versatile insulation that assists in maintaining conditioned space temperatures.

Sub-Floors
Crawl Spaces
Stud & Rafter Cavities

HVAC
Open Span Areas
Radiant Floor Systems



KEY ADVANTAGES

- ▶ Air infiltration barrier
- ▶ Increases system R-values
- ▶ CLASS-A Rated (ASTM E-84)
- ▶ Reduces energy consumption
- ▶ "Stand-alone" or with mass insulation
- ▶ Provides a thermal break and vapor barrier
- ▶ Available in various widths, thicknesses and facings to meet specifications



EZ-SEAL EDGE

Designed to make installation easier and more efficient with self-adhesive tape that creates a strong seam and vapor barrier.

ESP LOW-E® REFLECTIVE INSULATION

HVAC & RADIANT HEATING

RESIDENTIAL & COMMERCIAL APPLICATIONS



Flexible and durable duct insulation that does not absorb moisture and maintains performance values.

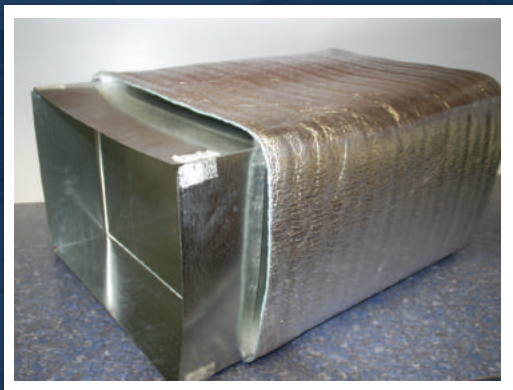


**Cold Air Returns
Crawl Spaces**

**Radiant Floors
Duct Insulation**

KEY ADVANTAGES

- ▶ Creates higher R-values
- ▶ Provides a vapor barrier
- ▶ Does not absorb moisture
- ▶ Will not mildew or deteriorate
- ▶ Superior thermal performance
- ▶ 100% non-toxic with no adhesives used
- ▶ Installs easily with razor knife and foil tape
- ▶ Performance not affected by condensation
- ▶ Clean, fiber-free, and hypo-allergenic duct wrap



ESP LOW-E® REFLECTIVE INSULATION

House Wrap

COMMERCIAL & RESIDENTIAL APPLICATIONS



Exterior building wrap that combines a **water-resistant barrier** and **thermal break** for increased R-values.



KEY ADVANTAGES

- ▶ ICC Approved (ICC-ES Evaluation Report #3079)
- ▶ Increases system R-values
- ▶ Assists in meeting 2012 IECC wall system code requirements
- ▶ Installed under all veneers, siding and stucco
- ▶ Creates a thermal break between exterior and studs
- ▶ Can replace conventional paper or fiber wrap materials (with the exception of under stucco)

Tape all vertical and horizontal seams with foil tape
(Refer to manufacturer's installation guide)



How can ESP LOW-E Reflective Insulation save homeowners on monthly utility costs?

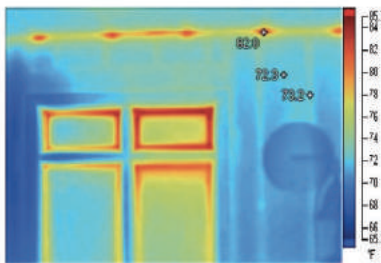
Two neighbors with identically sized homes (1,900 sq-ft) in Springfield, Illinois took part in a study to prove the effectiveness of LOW-E Reflective Insulation. Both homes were originally built by the same company within two months of each other.

THE MAIN DIFFERENCE: One of the houses was built using LOW-E Reflective Insulation House Wrap. *The other was not.*

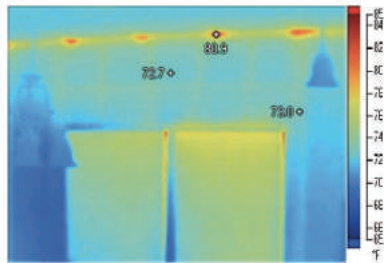
House built *without* LOW-E



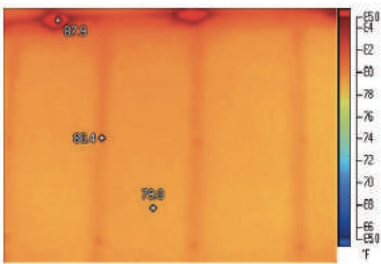
House built *with* LOW-E



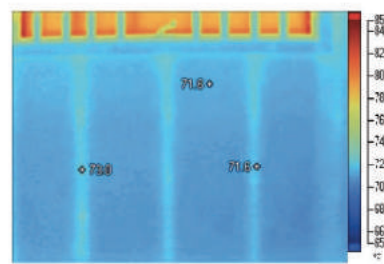
Non-LOW-E House Facing North



LOW-E House Facing North



Non-LOW-E House Facing South



LOW-E House Facing South

The homeowners agreed to allow their homes to be measured via thermal photographers over the course of two years to compare the efficiency and energy costs of the two homes. **The average annual energy savings for the LOW-E home measured more than \$250 a year.**

(Study conducted in Spring 2007)

ESP LOW-E® REFLECTIVE INSULATION

Micro-E

COMMERCIAL & RESIDENTIAL APPLICATIONS



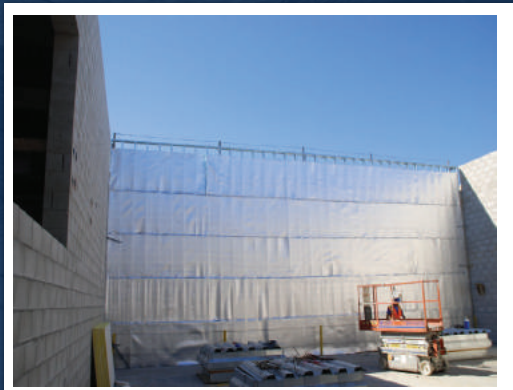
Slows down the transmission of radiant energy and **prevents** thermal bridging.



Light Gauge Steel
Post-Frame Structures
Under Drywall, Wood & Metal Construction

KEY ADVANTAGES

- ▶ Low perm ratings
- ▶ Prevents thermal bridging
- ▶ CLASS-A Rated (ASTM E-84)
- ▶ Increases R-value of wall assembly
- ▶ Reduces air loss in conditioned spaces
- ▶ Creates a vapor barrier behind interior drywall
- ▶ Used alone or in conjunction with mass insulation
- ▶ Slows the transmission of radiant energy (U-value)



ESP LOW-E® REFLECTIVE INSULATION

Slab Shield

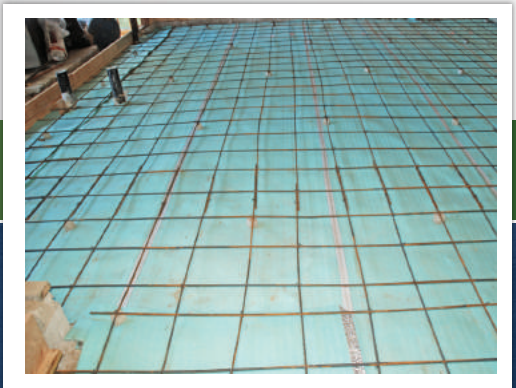
COMMERCIAL & RESIDENTIAL APPLICATIONS



Creates a thermal break between the slab and ground, allowing slab to **maintain desired temperature.**

Basements
Under Concrete Slab
Foundation Wraps

Radiant Floor Systems
Under Lightweight Concrete



KEY ADVANTAGES

- ▶ Reduces surface cracking
- ▶ Molds to contours of grade
- ▶ Improves slab response time
- ▶ Slab maintains desired temperatures
- ▶ High crush and puncture resistance ratings
- ▶ Adds R-value, vapor barrier & thermal break
- ▶ Allows the slab to warm and cool in relation to the interior space



Tape all vertical and horizontal seams with foil tape
(Refer to manufacturer's installation guide)

ESP LOW-E® REFLECTIVE INSULATION

Tab Insulation

COMMERCIAL & RESIDENTIAL APPLICATIONS



Pre-cut to fit standard framing dimensions for easy installation.
Can be a "stand-alone" or used in conjunction with mass insulation.

Stud & Rafter Cavities
HVAC & Radiant Systems

Sub-Floors
Crawl Spaces

KEY ADVANTAGES

- ▶ Seals tightly around fasteners
- ▶ Reduces monthly utility costs
- ▶ Non-toxic and hypo-allergenic
- ▶ Moisture, mold and mildew resistant
- ▶ Does not lose R-value due to moisture
- ▶ Increases insulation system performance
- ▶ Creates a thermal break and vapor barrier
- ▶ Pre-cut to fit standard framing dimensions
- ▶ Easy installation using razor knife and staple gun



Therma Sheet

COMMERCIAL & RESIDENTIAL APPLICATIONS

CREATES A THERMAL BREAK & REDUCES TEMPERATURES AT PLYWOOD

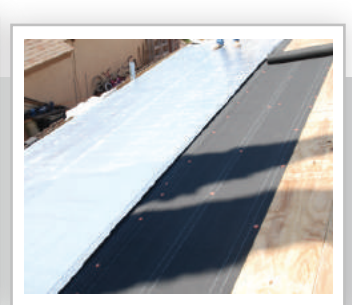
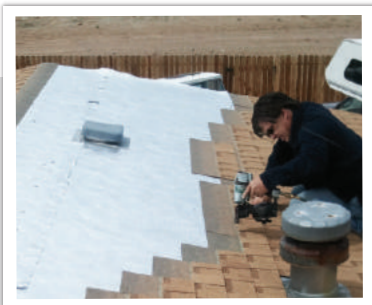
WITHOUT A REFLECTIVE AIRSPACE

Composite Shingles ▪ Single & Multi-Ply
Standing Seam Metal

INCREASES SYSTEM R-VALUES & REDUCES TEMPERATURES AT PLYWOOD

WITH A REFLECTIVE AIRSPACE

Metal Roofing ▪ Stone Coated Steel
Concrete & Clay Tile



CALIFORNIA "COOL ROOF" ALTERNATIVE

ESP now manufactures an additional LOW-E Therma Sheet product with a thicker polyethylene foam core. This product qualifies as a "Cool Roof" Alternative under the California Residential Building Code Standards.

Contact your local building department when determining which LOW-E Therma Sheet meets specific zone requirements.

KEY ADVANTAGES

- ▶ Creates a thermal break
- ▶ Provides a moisture barrier
- ▶ CLASS-A Rated (ASTM E-84)
- ▶ Reduces temperatures at plywood
- ▶ Reduces snow melt and ice damming
- ▶ Does not "super heat" roofing materials
- ▶ Lowers non-conditioned space temperatures
- ▶ Protects paper from drying out and premature aging
- ▶ Used in conjunction with traditional felt paper
(per manufacturer's guidelines)

LOW-E Therma Sheet

PRODUCT CODE: 4LMLX
DESCRIPTION: Double-sided scrimmed aluminum foil laminated to polyethylene core
 1/8" nominal thickness | 4" foil overlap flange

PRODUCT CODE: 4FLX (California Approved "Cool Roof" Alternative)
DESCRIPTION: Double-sided scrimmed aluminum foil laminated to polyethylene core
 3/16" (1/4" nominal thickness) | 4" foil overlap flange

DIMENSIONS: 500 sq. ft. | 4' x 125'

PERM RATING: ASTM E-96 | 0.008

FLAME & SMOKE: ASTM E84-97a | FLAME SPREAD < 25 | SMOKE DEVELOPED < 50

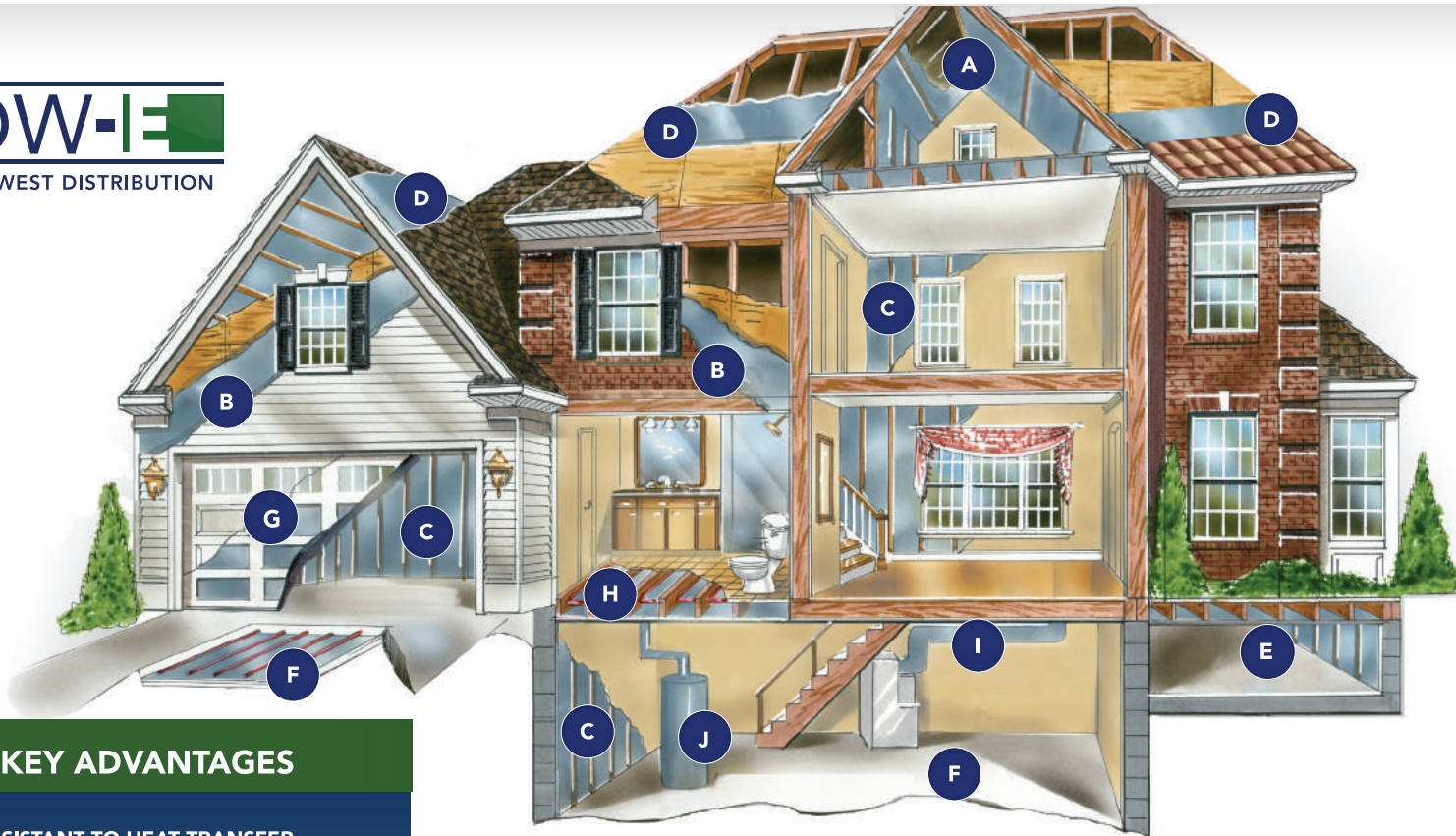
EMITTANCE: ASTM C-1731 | 0.03

R-VALUES 4LMLX: R-55 (product only) **Does not qualify** as a California "Cool Roof" Alternative
 R-6 (downward heat flow) with a 3/4" reflective airspace
 R-9 (downward heat flow) with a 1.5" reflective airspace

R-VALUES 4FLX: *R-1.03 (product only) **Qualifies** as a California "Cool Roof" Alternative
 R-6 (downward heat flow) with a 3/4" reflective airspace
 R-9 (downward heat flow) with a 1.5" reflective airspace

*R-value exceeds the requirement of R-.85 or greater as stated in the California Residential Building Code Standards, thus, qualifying as a "Cool Roof" Alternative. Consult your local building department for questions regarding specific applications. For specific zone requirements, refer to the California Residential Building Code Standards.

WARNING - Aluminum is an electrical conductor - please use caution when working around electrical sources.



KEY ADVANTAGES

- RESISTANT TO HEAT TRANSFER
- INCREASES SYSTEM R-VALUES
- CREATES A THERMAL BREAK
- REDUCES ENERGY CONSUMPTION
- AIR INFILTRATION BARRIER
- STAND-ALONE OR WITH MASS INSULATION
- CREATES A BETTER BUILDING ENVELOPE
- CLASS-A RATED (ASTM E-84)
- MEETS GREEN BUILDING STANDARDS

- A ATTICS**
Attic Floor Insulation - Floor Only
Micro-E - Rafters (with support strips)
Tab - Rafters & Trusses
- B UNDER EXTERIOR FINISHES**
House Wrap - All Veneers & Stucco
House Wrap - Siding
- WALLS**
C Econo-E / Micro-E - Basement Walls
Tab - Stud Cavities

- D ROOF SYSTEMS**
Econo-E / Micro-E - Draped across Rafters & Trusses
Therma Sheet - Clay & Concrete Tile, Metal, Stone Coated Steel
Therma Sheet - Under Composite Shingles (where approved)
- E SUB-FLOORS**
Tab / Econo-E / Micro-E - Basements, Crawl Spaces, Mid-Level Floors

- F CONCRETE**
Slab Shield - Under Concrete Slabs, Pavement, Snow Melt
- G GARAGE DOORS**
Class-A White / Econo-E
- H RADIANT FLOORS**
Slab Shield - Under Concrete
Econo-E / Tab - Wood Floors
- I Econo-E / Duct Wrap**
 Ducts & Pipe Wrap
- J Water Tank Jacket Kit**
 Water Heaters

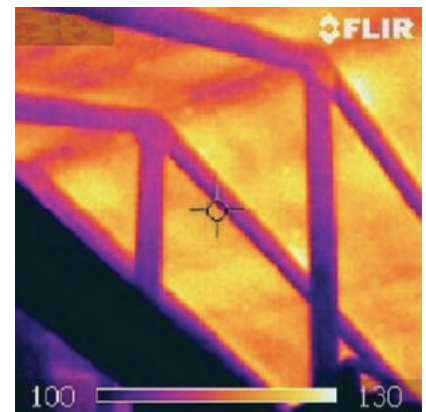
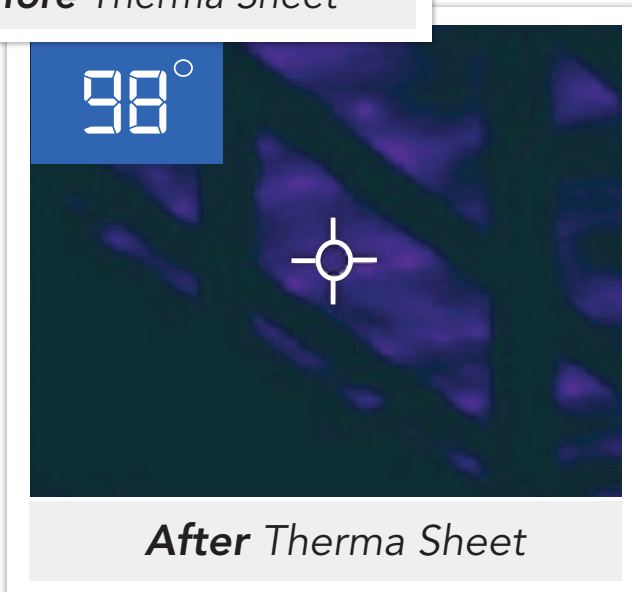
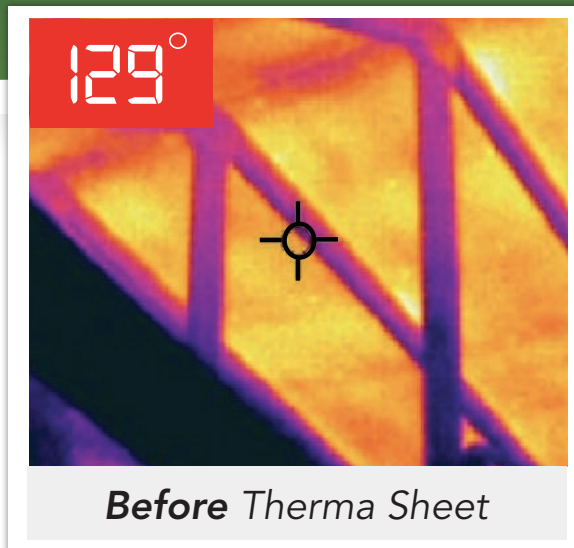
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Arizona Therma Sheet IR Image Test Demonstrates Attic Temperatures Reduced by 30 Degrees

On April 7th, 2009, a five-week documentation on a project involving the installation of a new cement tile roof using LOW-E Therma Sheet as an underlayment was conducted by a third party Certified IR Thermographer.

The project consisted of removing the old cement tile roof and underlayment and replacing it with new cement roof tiles and new felt - this time with the addition of Therma Sheet over the felt paper.

These IR images were taken at the completion of the project on May 13th, 2009 at 11:00 a.m., with outside temperatures at 92 degrees.



This study was conducted by Environmentally Safe Products® the manufacturer of LOW-E Reflective Insulation.

Temperatures Reduced 30 Degrees at Plywood in Composite Shingle Study

On a 4/12 pitch roof, LOW-E Therma Sheet was installed under black asphalt shingles on one side, and on the opposite side the black shingles were installed without LOW-E Therma Sheet.

With the outside temperature close to 90 degrees, the side with the LOW-E Therma Sheet dropped the underside plywood temperature by 30 degrees – while the side without maintained 99% of it's temperature at the underside of the plywood.

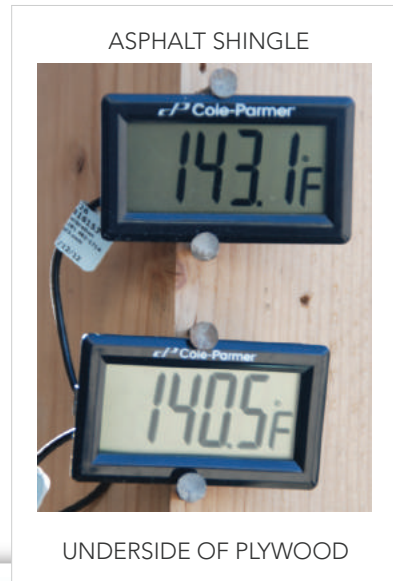
Therma Sheet under asphalt shingles



With Therma Sheet



Without Therma Sheet



This project was conducted in Escondido, CA by LOW-E SOUTHWEST DISTRIBUTION (a privately owned and operated entity). The outcomes are not third-party certified and the images shown are for demonstration purposes only and intended for the sole use of LOW-E SOUTHWEST DISTRIBUTION.

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Product Specifications

The ESP® LOW-E products included in this catalog are considered stock items for LOW-E SOUTHWEST DISTRIBUTION. LOW-E products are often times available through special order in other dimensions, thicknesses and facings to meet more specific applications.

A complete outline of the ESP® LOW-E line of products can be located at www.lowesouthwest.com or on the manufacturer's website at www.low-e.com.

Attic Floor



PRODUCT CODES:	4PMPA-SL
DESCRIPTION:	Double-sided aluminum foil laminated to polyethylene foam 1/8" nominal thickness perforated
DIMENSIONS:	500 sq. ft. 4' x 125'
PERM RATING:	ASTM E-96 5.18 perms or 51.55 grams / day-m ²
CRITICAL RADIANT FLUX:	ASTM E-970 .12 w/cm ² (no ignition)
EMITTANCE:	ASTM C-1371 0.03
*R-VALUE:	R-5.5 (down) R-2.3 (up)

*Determined when placed on top side of ceiling joist or existing insulation in joist area. R-value includes core material value and low emittance air film value for upward and downward heat flow respectively.

Designed for use in residential attic floor spaces only

Class-A White



PRODUCT CODES:	CLASS-A WHITE - TRIMMED	4EFWT 6EFWT
	CLASS-A WHITE - EZ SEAL	4EFWZ 6EFWZ
DESCRIPTION:	Double-sided aluminum foil laminated to polyethylene foam 1/4" nominal thickness	
FACINGS AVAILABLE:	Foil / White Foil	
EDGINGS AVAILABLE:	Trimmed EZ SEAL	
DIMENSIONS:	500 sq. ft. 4' x 125' 6' x 84'	
FLAME & SMOKE:	ASTM E-84 FLAME SPREAD < 25 SMOKE DEVELOPED < 50	
FULL SCALE FIRE TEST:	NFPA 286 Foil / White (passed)	
R-VALUE:	Up to R-11 (Varies depending on facing and assembly)	

PRODUCT CODES:	Garage Door (Single)	150 GK
	Garage Door (Double)	300 GK
DESCRIPTION 150 GK:	58 square feet of CLASS-A WHITE pre-cut panels (3/16" thick) and double-sided tape	
DESCRIPTION 300 GK:	114 square feet of CLASS-A WHITE pre-cut panels (3/16" thick) and double sided tape	

Garage Door Kits are available in other widths and dimensions

LOW-E

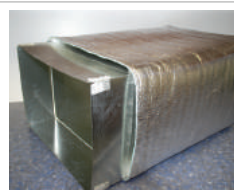


PRODUCT CODES:	LOW-E 4LFLT 6LFLT EZ-SEAL 4LFLZ 6LFLZ
DESCRIPTION:	Double-sided scrimmed aluminum foil laminated to polyethylene foam 1/4" nominal thickness
FACINGS AVAILABLE:	Foil / Foil
EDGINGS AVAILABLE:	Trimmed EZ SEAL
DIMENSIONS:	500 sq. ft. 4' x 125' 6' x 84'
FLAME & SMOKE:	ASTM E-84 FLAME SPREAD < 25 SMOKE DEVELOPED < 50
FULL SCALE FIRE TEST:	NFPA 286 Foil / Foil (passed)
R-VALUE:	Up to R-22*



*R-values vary depending on facing and assembly; specific application R-values can be obtained from the ESP LOW-E® Installation Guide available at www.low-e.com

HVAC & Radiant Heating



PRODUCT CODES:	4LFLD-SP 6LFLD-SP
DESCRIPTION:	Double-sided scrimmed aluminum foil laminated to polyethylene foam 1/4" nominal thickness
DIMENSION:	500 sq. ft. 4' x 125' 6' x 84'
FLAME AND SMOKE:	ASTM E-84 FLAME SPREAD <25 SMOKE DEVELOPED <50
EMMITANCE:	0.03
*R-VALUE:	ASTM C-518 R-6.41 (1/2" Space)



*System R-values calculated by GEOSCIENCE, LTD. Report available upon request.

IMPORTANT: Install spacers every 24" to 36" and tape ALL seams with a U.L. 181 approved HVAC foil tape.

House Wrap (ICC-ES® Certified)



PRODUCT CODES:	4PFNS 6PFNS
DESCRIPTION:	Single-sided scrimmed aluminum foil laminated to polyethylene foam (perforated) 1/4" nominal thickness 2" foil overlap flange
DIMENSIONS:	500 sq. ft. 4' x 125' 6' x 84'
PERM RATING:	ASTM E-96 7 or 40 grams / (day-m ²)
WATER RESISTANCE:	ASTM D779 9 hours
FLAME & SMOKE:	ASTM E-84 FLAME SPREAD < 25 SMOKE DEVELOPED < 50
FULL SCALE FIRE TEST:	(Walls only) NFPA-286 (passed)
EMITTANCE:	ASTM C-1371 0.03
CORE RESISTANCE:	R-1.03
SYSTEM R-VALUE*:	R-4 (with reflective airspace)



*Horizontal heat flow behind vinyl siding with 0.375 inch airspace; ESP LOW-E® House Wrap attached to a nominal 1/2" wood sheathing. Report from GEOSCIENCE available upon request.

Tape all vertical and horizontal seams with foil tape (refer to manufacturer's installation guide).

Product Specifications

Micro-E



PRODUCT CODES:	4LMLT - TRIMMED
DESCRIPTION:	Double-sided scrimmed aluminum foil laminated to polyethylene foam 1/8" nominal thickness
DIMENSIONS:	500 sq. ft. 4' x 125'
PERM RATING:	ASTM E-96 0.008
FLAME & SMOKE:	ASTM E-84 FLAME SPREAD < 25 SMOKE DEVELOPED < 50
EMITTANCE:	ASTM C-1371 0.03
R-VALUE*:	R-10 (down) R-6 (up) R-7 (horizontal)

*R-value results are obtained from ASTM C236 and can be higher or lower depending upon application. Specific R-values can be obtained from the ESP LOW-E Installation Guide available at www.low-e.com.



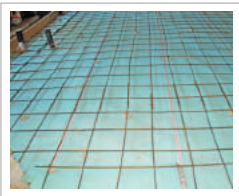
Slab Shield



PRODUCT CODES:	4FSFB 4MSMB
DESCRIPTION:	Double-sided polyethylene foam laminated to aluminum foil (in middle) 3/8" or 1/4" nominal thickness
DIMENSION:	400 sq. ft. 4' x 100' 500 sq. ft. 4' x 125'
PERM RATING:	ASTM 96 0.0028
FLAME & SMOKE:	Not applicable in this application as product is to be installed under concrete only
PUNCTURE RESISTANCE:	Beach T-803-99 92.9 psi
CRUSH RESISTANCE:	Architectural Testing, Inc. 70 psi
R-VALUE:	ASTM C518 R-2.9 (tested within concrete assembly) 4FSFB R-1.6 (product only) 4MSMB R-1.2 (product only)

Designed for under concrete application only.

Tape all vertical and horizontal seams with foil tape (refer to manufacturer's installation guide).



Tab Insulation



PRODUCT CODES:	16LFLC 24LFLC
DESCRIPTION:	Double-sided scrimmed aluminum foil laminated to polyethylene foam 1/4" nominal thickness
DIMENSIONS:	500 sq. ft. 16" x 125' 24" x 125'
PERM RATING:	ASTM E-96 0.008
FLAME & SMOKE:	ASTM E-84 FLAME SPREAD < 25 SMOKE DEVELOPED < 50
EMITTANCE:	ASTM C-1371 0.03
R-VALUE*:	R-11 (down) R-7.55 (up) 7.75 (horizontal)

*R-VALUE results are obtained from ASTM C-236 and can be higher or lower depending upon application.



Therma Sheet



PRODUCT CODE: 4LMLX (1/8")
DESCRIPTION: Double-sided scrimmed aluminum foil laminated to polyethylene foam
1/8" nominal thickness | 4" foil overlap flange

PRODUCT CODE: 4LFLX (3/16")
DESCRIPTION: Double-sided scrimmed aluminum foil laminated to polyethylene foam
1/4" nominal thickness | 4" foil overlap flange



DIMENSIONS: 500 sq. ft. | 4' x 125'
PERM RATING: ASTM E-96 | 0.008
FLAME & SMOKE: ASTM E84-97a | FLAME SPREAD < 25 | SMOKE DEVELOPED < 50
EMITTANCE: ASTM C-1731 | 0.03

R-VALUES 4LMLX:
R-.55 (product only)
R-6 (downward heat flow) with a 3/4" reflective airspace
R-9 (downward heat flow) with a 1.5" reflective airspace

R-VALUES 4LFLX:
R-1.03 (product only)
R-6 (downward heat flow) with a 3/4" reflective airspace
R-9 (downward heat flow) with a 1.5" reflective airspace

LOW-E Therma Sheet meets the 2013 Building Code Requirements under the Prescriptive Exceptions (1/4" and 3/16" - with an airspace) and the Performance Compliance Method (3/16" - without an airspace).

Additional information is available at www.lowesouthwest.com/CA2013.

Consult your local building department with questions regarding specific applications and zone requirements.

WARNING - Aluminum is an electrical conductor - please use caution when working around electrical sources.

LOW-E Reflective Insulation is sold through distribution to a wide range of building material suppliers. For pricing and product availability in your area a listing of our current dealers stocking LOW-E products is available at www.lowesouthwest.com. If there is not a supplier listed in your area please contact LOW-E SOUTHWEST for additional information.

Please refer to www.lowesouthwest.com/resources for additional reference materials, test studies, demonstration videos and letters from roofing material manufacturers regarding the use of ESP LOW-E Therma Sheet in conjunction with their specific products.



Contact your local building department when determining which LOW-E Therma Sheet meets specific zone requirements.
www.lowesouthwest.com/CA2013.

Leadership in Energy and Environmental Design Program Credits (LEED)

LEED is an internationally recognized Green Building Certification system. Developed by the U.S. Green Building Council (USGBC) in March 2000, LEED provides building owners and operators with a framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions.



The following are examples of the credits ESP LOW-E® may be able to assist with

SUSTAINABLE SITES

SS CREDIT

HEAT ISLAND EFFECT

Reduces heat absorption and increases Solar Reflectance Index

ENERGY & ATMOSPHERE

EA PREREQUISITE 2

MINIMUM ENERGY PERFORMANCES

Complies with ASHRAE 90.1-2004
Assists in maximizing energy performance

EA CREDIT 1

OPTIMIZE ENERGY PERFORMANCE

Creates more efficient systems that can assist in reducing energy costs

EA CREDIT 2

ON-SITE RENEWABLE ENERGY

Assists in creating higher percentages of renewable energy
Can assist in achieving exemplary performance for on-site renewable energy

MATERIALS & RESOURCES

MR CREDIT 4

RECYCLED CONTENT

Manufactured using post-industrial recycled content

MR CREDIT 5.1

MANUFACTURED REGIONALLY

Manufactured in Carson City, Nevada qualifying projects within 500-mile radius

INDOOR ENVIRONMENTAL AIR QUALITY

PREREQUISITE 1

MINIMUM AIR-QUALITY PERFORMANCE

Assists in meeting ASHRAE 62.1-2004 ventilation design

EQ CREDIT 2

INCREASED VENTILATION

Creates additional air quality control, allowing for enhanced comfort for occupants

EQ CREDIT 4.3

LOW EMITTING MATERIALS

Can be used as an underlayment in lieu of standard padding to reduce harmful air contaminants
Contains no harmful chemicals or irritants

EQ CREDIT 6.2

CONTROLLABILITY OF SYSTEMS

Assists in providing increased balance in radiant temps as part of ASHRAE 55-2004

EQ CREDIT 7.0

THERMAL COMFORT

Thermal break from radiant energy, providing a better comfort system
Assists with ASHRAE 55-204 to increase thermal comfort

ID CREDIT 1.1 - 1.4

INNOVATION CREDIT

Applies measures that demonstrate a comprehensive approach and quantifiable environmental and health benefits

ESP LOW-E "REFLECTIVE INSULATION NUTS & BOLTS"

Environmentally Safe Products (ESP) strongly supports the building industry's efforts in providing the education and resources to advance knowledge regarding energy-efficient building products and their impact on residential and commercial building.

ESP® LOW-E approved AIA Course #100578 provides an overview of the science behind how reflective insulation performs in comparison to mass insulation, how heat transfers, what the composition of reflective insulation is, the definition of "E" versus "R"-value, testing procedures, and applications.

AIA members earn one HSW CE Credit for the one-hour program. The course learning objectives include:

- ▶ List and explain the three types of heat transfer
- ▶ Understand how and why reflective insulation works
- ▶ Answer the questions: Does reflective insulation have R-value?
- ▶ What is the difference between reflective insulation and radiant barrier?



CONTINUING EDUCATION CREDITS

Charlie Snowden is a LEED Accredited Professional and is the LOW-E SOUTHWEST provider for this course. To schedule a seminar please call 877-565-5693.

ESP® LOW-E REFLECTIVE INSULATION - WARRANTY AND INSTALLATION GUIDELINES

ESP, Inc strives to provide the most accurate R-value data possible. The R-values set forth in this document are the reflection of a combination of industry standard testing and conscientious calculation. However, these numbers, even within specific applications, can fluctuate due to the multiple variables that influence R-value.

If there are any questions concerning the building application or installation process, please consult your local building codes and building department officials before installing ESP® LOW-E Reflective Insulation. To achieve the noted R-values it is essential that the insulation be installed properly.

For additional information on ESP® LOW-E Reflective Insulation products not referenced in this catalog and for individual specifications please contact LOW-E Southwest Distribution at 877-565-5693 or Environmentally Safe Products, Inc. (ESP) at 1-800-289-5693. Full warranty, caution and warning statements are available at www.low-e.com.

CAUTION

- ▶ Do not leave product exposed when placed on both walls and ceilings of a conditioned space if ceiling height is less than 10 feet
- ▶ In conditioned spaces where product is being used on both walls and ceilings, and ceiling height is less than 10 feet, surfaces should be covered with an appropriate thermal barrier
- ▶ Do not allow product to become damp or wet while rolled in sealed bag
- ▶ Do not set product directly on wet or uncured concrete

WARNING

- ▶ Aluminum is an electrical conductor
- ▶ Please use caution when working around electrical sources including overhead power lines
- ▶ Carefully inspect electrical junction boxes and check for frayed wires before beginning installation

PRODUCT INSTALLATION

LOW-E REFLECTIVE INSULATION INSTALL GUIDE

<http://www.low-e.com/Install/install.php>

The ESP® LOW-E Installation Guide is designed to assist in understanding the R-values that can be achieved with the installation of ESP® LOW-E Reflective Insulation. A common misconception of reflective insulation is that one standard R-value is applicable for every application. The system R-values you could achieve are based on test data obtained under controlled conditions and computer calculations or the ASHRAE Handbook of Fundamentals using FTC Guidelines.



Installation ideas to help you install the ESP® LOW-E product line and achieve maximum performance.

The systems R-values in the installation guide are calculated using tested results from ASTM C-236 or ASTM C-976 test methods and calculations from the ASHRAE Handbook of Fundamentals - as well as computer calculations. To properly apply the data in a specific application - consult an engineer or architect. While the information is presented in good faith and believed to be accurate, ESP® LOW-E and its distributors have no control over installation design, installation workmanship, accessories, materials or condition of application. ESP® LOW-E does not guarantee results from reliance of such information and disclaims any liability from any loss or damage arising from its uses.

FLAMMABILITY TESTING & MANUFACTURER'S WARNING

All ESP® LOW-E Insulations have been tested in accordance with either the ASTM E-84 Surface Burning Characteristics for Building Materials or the NFPA 286 Full Scale Room Burn Test. The majority of ESP® LOW-E Reflective Insulation products meet the criteria in building codes to be used in exposed building applications. Always consult local building codes and officials before installing ESP® LOW-E if there are any questions concerning the building application. For questions concerning which product to use in a specific application call 877-565-5693 (LOW-E Southwest Distribution) and we will be happy to assist you with choosing the correct product for your building.

MANUFACTURER'S WARNING

It is not recommended that the products be left exposed in walls and ceilings where the ceiling height is less than 10 feet. If the product is to be installed in a building in the walls and ceilings with a ceiling height less than 10 feet, the wall should be covered with an approved thermal barrier (ex: gypsum board). Always consult your local building codes or officials before installing.

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 standards of these test methods. 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. ESP® LOW-E strives to have tests done as close as possible to the actual install methods.

WARNINGS

- ▶ Aluminum is an electrical conductor. Please use caution when working around electrical sources including overhead power lines.
- ▶ Rolls of insulation are packaged in a polyethylene wrapping. Insulation should be stored in a dry protected area.
- ▶ Do not allow insulation to come in contact with fresh concrete at any time.
- ▶ Any tears or punctures in the foil should be repaired with aluminum tape. All seams that require taping must be taped with ESP® approved tape.

PRODUCT WARRANTY

ESP® LOW-E Reflective Insulation products are guaranteed against defects in material and workmanship for 20 years. Blister or bubbles in product surfaces 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:

- ▶ One inch wide or more of foil delamination on the edges for more than 15 feet of the roll
- ▶ More than one inch of core showing on 20 feet or more of a roll
- ▶ Large areas (more than one square foot) of delaminated foil

CORRECTIVE INSTRUCTION

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:

- ▶ If there is a core showing on one side, either tape the seam on that side when installed or install product with the core side in.
- ▶ If there is an edge that is delaminated, either tape the seam on that side when installed or install product with delaminated edge in.
- ▶ 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

It is the opinion of ESP® LOW-E that our distributors should handle customer problems directly and ESP® in return 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 the label is not available, return the bad section.
- ▶ All labels on the product must be saved for verification. If the label is not sent back with completed 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. If the customer elects to keep the product that is considered seconds, and the complaint form and labels are sent back, ESP will credit the customer for the difference in first quality and second quality pricing.
- ▶ 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.

DISCLAIMER

R-values in the installation guide are achieved with ESP® LOW-E products having foil facings with a .03 emittance on both sides. LOW-E products with a white foil facing will have a lower R-value. Please consult a manufacturer's representative for the thermal performance of these products



SOUTHWEST DISTRIBUTION

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LOW-E



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HOUSE WRAP



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SLAB SHIELD



THERMA SHEET



MICRO-E

LOW-E SOUTHWEST is privately owned and operated by Cindy and Charlie Snowder, with business operations and primary distribution center located in Escondido, California. LOW-E SOUTHWEST's region is comprised of California, Arizona, Nevada, Utah, New Mexico and Colorado.

In addition to operating LOW-E SOUTHWEST, Charlie is a licensed general contractor with both a California B-1 and C-2 License and is a LEED Certified AP.

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