

The **Green** foil insulation company

The Original
Reflective Foil
Insulation

LOW-|E

REFLECTIVE INSULATION

Reduces your carbon footprint





Thermal performance,
radiant barrier, vapour
control and airtightness,
all in one product.....

Why use anything else?

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The original foil insulation! Low-E® is the oldest foil insulation on sale in the UK and we have never changed the number of layers in our product.
You only need one!

Product

Market Launch	1993
Product Installed	>700 Million Sq Ft
Core Layers	1 Recycled Closed Cell Foam
Recycled Content	Up to 40%

Manufactured from recycled material using a patented process that eliminates the use of glues, adhesives and solvents. Low-E® has one of the lowest carbon footprints of any insulation, Low-E® is the only real 'GREEN' foil insulation on sale. Low-E® is non-toxic and fungi resistant. It stops the infiltration of pollen and other allergens into your building, making Low-E® ideally suited for use in homes, offices, hospitals and schools. Low-E® products are unrivalled in fire performance, Low-E® has been Fire Tested in the UK, Australia and USA. Low-E can be used where other foil insulations cannot. Zero Smoke & Zero Flame Spread.

Composition

Facing Material	Foam Core	Facing Material
99.4% Pure Aluminium	Recycled Closed Cell Polyethylene	99.4% Pure Aluminium



An Innovative Solution for Modern Buildings

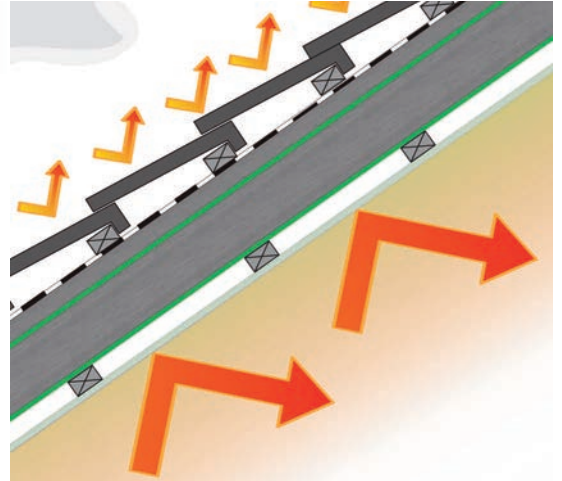
It is unrealistic to expect a single product to address all of the problems posed by modern buildings. However by using **Low-E® Insulation** as part of a combination system you can meet high R-value requirements, address vapour control and stop drafting and air leakage into and out of your building. **Low-E® Insulation** can be used alongside traditional insulations to increase thermal performance and reduce life-cycle running costs, by tackling issues which have been previously unaddressed by bulkier insulation products.

Performance

Increase thermal performance! **Low-E® Insulation** has a uniquely designed core that successfully tackles three forms of heat loss and provides impressive **thermal performance**.
 $R = 2.08 \text{ m}^2 \text{ K/W}$.

Low-E® reflects **97% of radiant heat** that comes in contact with its surface due to its natural **low emissivity value**.

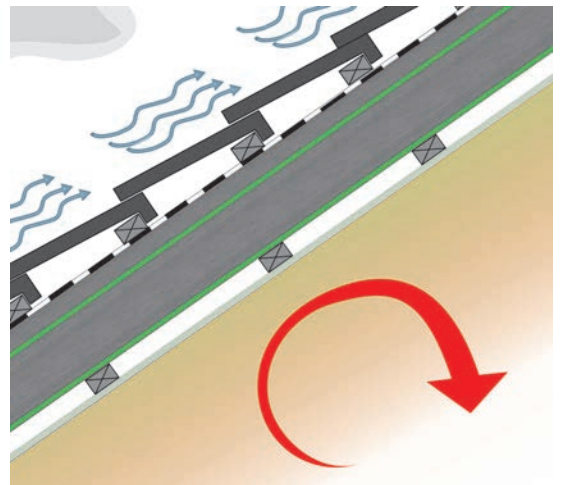
BR443 Compliant Hot Box Test - *Includes 2 air layers adjacent to the foil surface, tested in 3 orientations - Heat Flow UP, DOWN & HORIZONTAL.*



Air tightness

It is now widely regarded that there is little point in **increasing thermal performance** without also addressing **uncontrolled air movement** into and out of any building. Draughting and air leakage can account for up to 40% of heat loss in a building. **Low-E®** stops **draughting** and **air leakage**, reducing heat loss and carbon emissions.

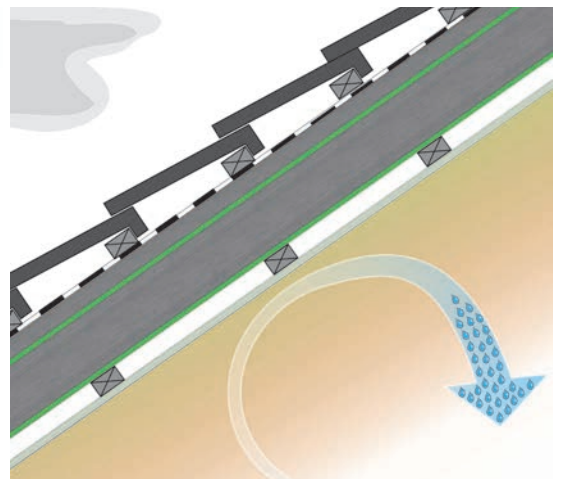
Low-E® has been **tested to 600Pa** and was found to have **ZERO air leakage**.



Vapour Control

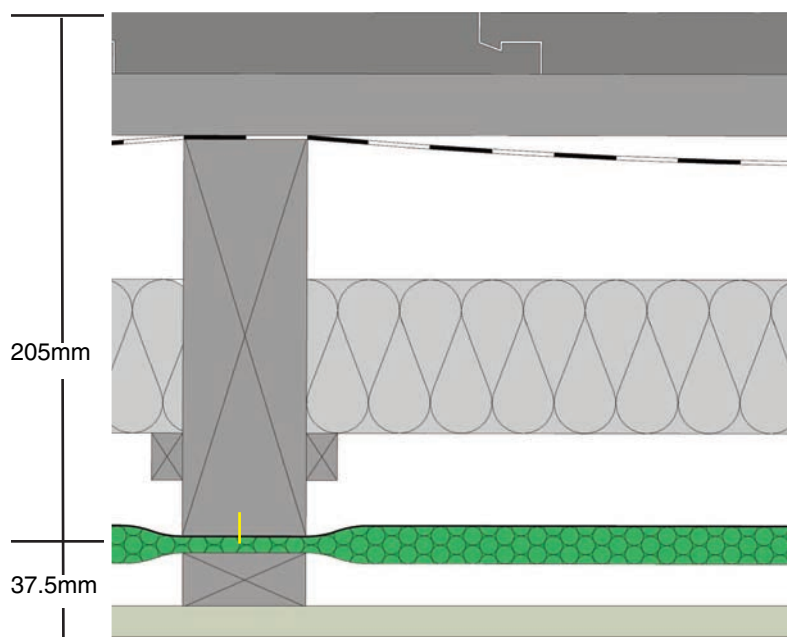
To **optimise performance** in both new build and refurbished buildings, it is always advisable to install a vapour control layer within a modern building envelope. **Low-E® EZ** is a complete **vapour control layer** and will stop water vapour travelling from the internal living area of the building through the building structure.

Low-E® PERF is a **breathable foil insulation** that has been designed to allow vapour transmission. This is ideally suited for use on the external side of an insulation system or in an attic above existing insulation.



See why **Low-E®** is fast becoming the preferred foil insulation for builders, designers and manufacturers around the world.

Low-E® Combination System



Saves money

Saves space
Only 5.5mm thick

Requires 22mm battens
for 20mm airspace

Save 50% install time

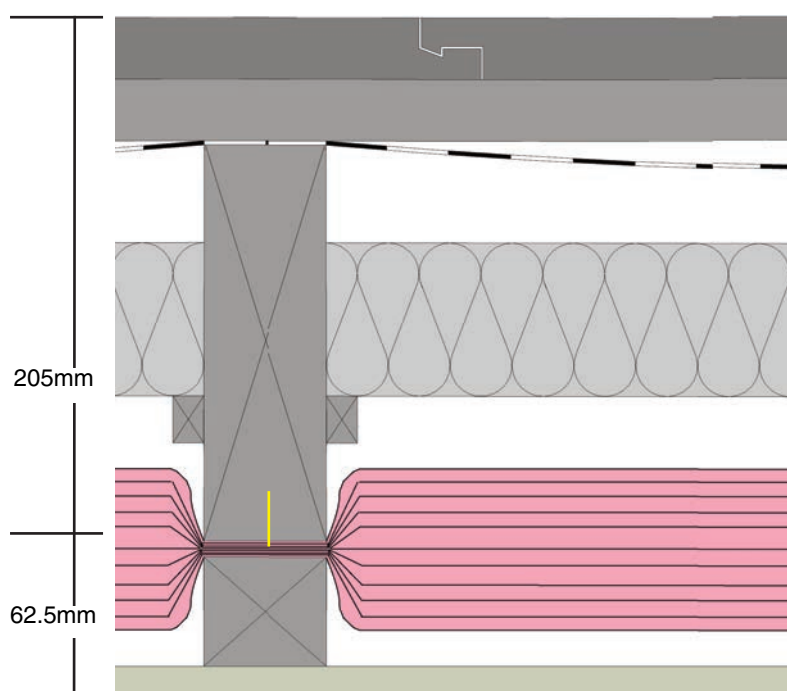
No dragging on screws

Lightweight & quick to cut

Class A/ Class 1 Fire Rating

Core is unaffected by moisture

Multi-Foil Combination System



More expensive per m²

Occupies more rafter space
Often over 30mm thick

Requires 47mm battens
for 20mm airspace

At least double the install time

Drags on screws
Difficult to cut and can collapse in cavity

Not fire tested

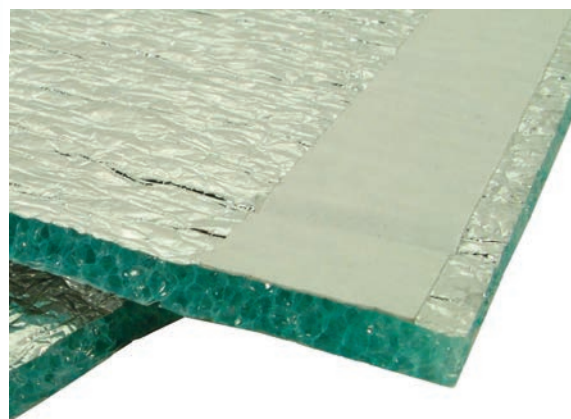
Core can absorb moisture

Which Product is for You?

Low-E® EZ Seal

Low-E® EZ Seal is an easy-to-install, complete air-infiltration and vapour barrier.

Low-E® EZ Seal is our standard Low-E® Insulation product. It has a self-adhesive 'EZ Seal' strip (30mm wide) along one side of the roll. The EZ Seal strip allows you to overlap and join to the next roll. The additional 30mm means you don't lose any material with the overlap .



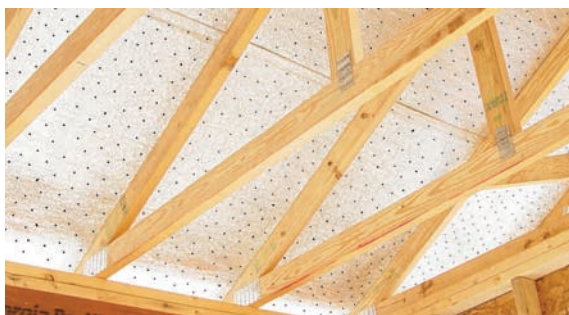
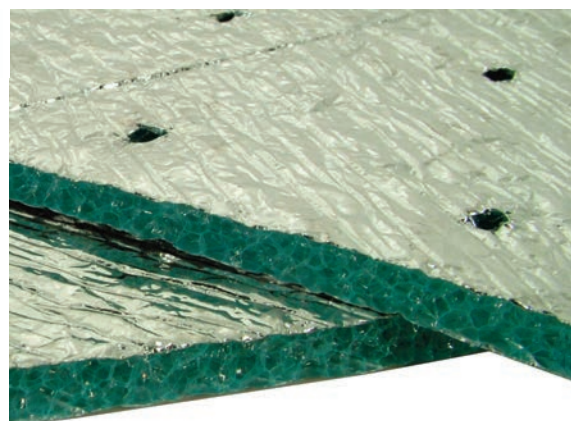
Air Permeability - BS EN 12114	Zero - m3 hr-1 m ⁻² @ 600 Pa
MVTR - BS 3177	>2000 MN s/g
Thickness	5.5mm
Roll Width	1250mm (+30mm EZ Seal)
Roll Yield	5m ² / 10m ² / 20m ² / 40m ²
Weight	150g / m ²

Low-E® PERF

Low-E® PERF is recommended for use on the external sides of a building envelope where breathability is of paramount importance.

Low-E® PERF is the only truly breathable foil Insulation.

The ONLY
certified
'breathable'
Foil Insulation



MVTR - BS 3177	0.11 MN s/g
Thickness	5.5mm
Roll Width	1250mm
Roll Yield	20m ² / 40m ²
Weight	150g / m ²

Core Thermal Conductivity	0.0366 W m ² K	BS EN 12264
R-value Core with 2 Airspaces	1.28 m ² K/W	BS EN 8990 - Heat Flow (Up)
R-value Core with 2 Airspaces	2.97 m ² K/W	BS EN 8990 - Heat Flow (Down)
R-value Core with 2 Airspaces	1.43 m ² K/W	BS EN 8990 - Heat Flow (Horizontal)
Emissivity	0.05	EN 16012
Fire Performance	Class 1/Class A	BS 476/ ASTM E84

Additional Testing

Fungi Mould Resistance ASTM C1338	No Growth
Carbon Footprint per m ²	359g CO ₂ e
GWP	Zero
Beach Puncture T-803-99	39.9 lbs
Nail Tear BS EN 12310-1	25-29 (N)
Tensile Strength BS EN 12311EN 16012	44.88 - 59.68 (N)
Corrosivity	Pass
Delamination	Pass
Nail Tear	Pass
Tensile Strength	Pass
Crush & Puncture Resistance	72 PSI / 96 PSI
Sound Transmission Class	STC = 40



U - Value and Condensation Risk

The U-values in this guide have been calculated using BS EN ISO 6946 and are designed to show compliance with 2006, 2010 and 2014 regulations.

The thermal properties of **Low-E® Insulation** in this guide have been based on installing **Low-E® Insulation** with a 25mm airspace and have been measured using BS EN 12667 and BS EN ISO 8990 in accordance with EN 16012. Omitting an airspace or installing **Low-E® Insulation** with a smaller airspace will affect the overall U-value of a system.

All systems have followed the method for Condensation Risk Analysis BS EN ISO 13788. Where **Low-E PERF** has been used, it has been tested and assessed by LABC and shows compliance with BS 5250.

Substituting **Low-E PERF** for other materials could create problems with interstitial condensation and damage the structure of the building.

Secondary insulations, construction materials and additional airspace values have been taken from manufacturers declared values, BS EN ISO 6946 and BR 443, Approved Document Part L. This guide shows how **Low-E® Insulation** can be installed alongside high performing Phenolic Foam and PIR or any type of Mineral Fibre insulation.

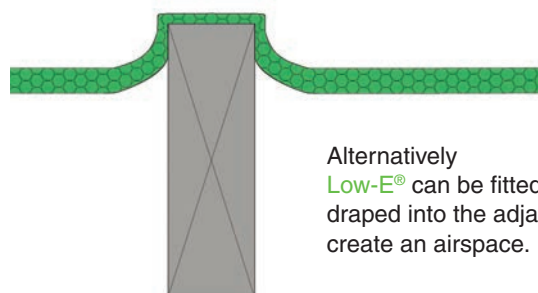
If you have an application for **Low-E® Insulation** that is not covered in this guide please contact **Low-E UK Ltd** for advice.

Airspaces

Airspaces form an important part of the system U-value, when using **Low-E® Insulation**. As **Low-E® Insulation** is only 5.5mm thick, installing **Low-E®** with a 2" x 1" counter batten is an easy way to maintain an airspace. There are numerous other ways of creating airspaces when installing **Low-E® Insulation**. If you have an application for **Low-E® Insulation** and want to find a suitable way of fitting, please contact us for details.

Minimum recommended airspaces

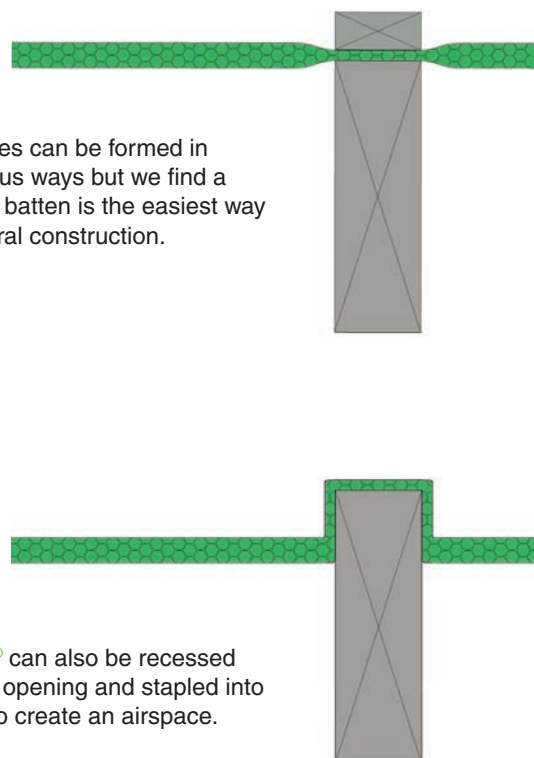
- 13mm - Roof Application
- 16mm - Wall Application
- 18mm - Floor Application



Alternatively **Low-E®** can be fitted loose and draped into the adjacent cavity to create an airspace.

Airspaces can be formed in numerous ways but we find a counter batten is the easiest way in general construction.

Low-E® can also be recessed into an opening and stapled into place to create an airspace.



No multiple layers, no frayed edges, no dragging on screws, **Low-E®** will save you 50% on your install time.



There is no safety equipment or protective clothing required to handle or install **Low-E® Insulation**. A staple gun, utility knife and a roll of **Low-E® Seam Tape** are the only items required for general installation.

Low-E® can be installed with either side facing out and can be nailed or screwed through to fix in place and can be installed with either side facing out. **Low-E®** will not drag on screws and will self-seal around any fixings that puncture it during installation.

Precautions

Aluminium is an electrical conductor. Please use caution when working around electrical sources, including overhead power lines.

Low-E® should be stored on a flat dry surface in its bag, out of direct sunlight, until it is ready for installation.

Never interfere with the designed ventilation of the building when installing **Low-E® Insulation**.

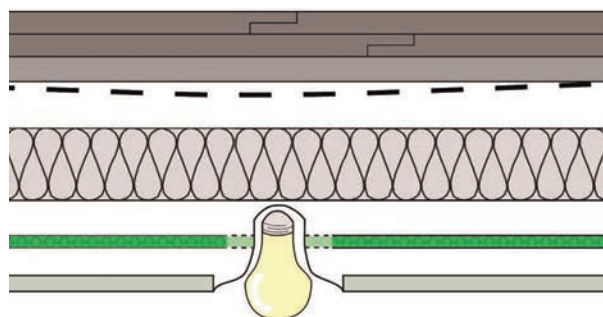
Although **Low-E® Insulation** products have an excellent fire rating, it is recommended that they should not be exposed to open flames or ignition sources of sufficient intensity during shipment, storage or installation.

50mm of clearance should be left around heat producing flues or light fittings.

Install any additional insulation in accordance with the manufacturers' guidelines. Always build in accordance with applicable standards.

When using **Low-E®** outdoors be aware of glare from the sun; protect your eyes and skin. Aluminium surfaces should not be installed in direct contact with uncured concrete or any uncoated raw metals. Do not walk on **Low-E®** when it is cut before installation.

If you have any concerns about condensation risk, please contact your local building control officer for advice.

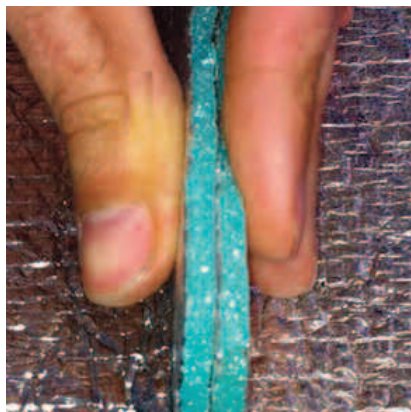
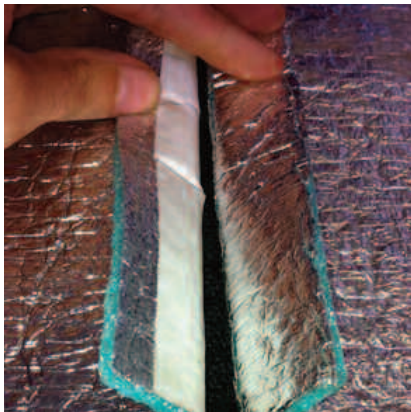
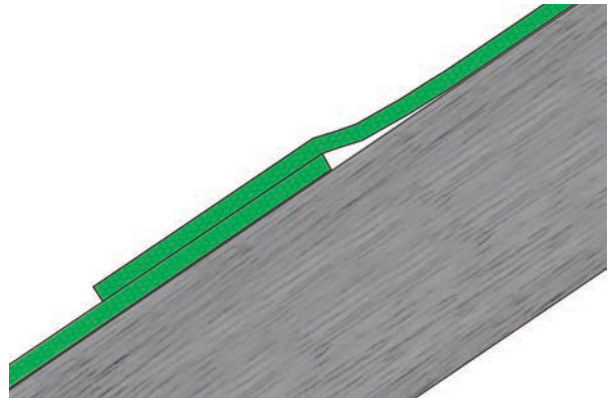


Joining Rolls

Overlapping

Simply overlap the adjoining rolls by 50mm-100mm and seal using **Low-E® Seam Tape**.

When you are overlapping rolls, it is important to ensure the overlap does not allow water to get into the structural space.



Low-E® EZ SEAL

The adhesive strip that runs along one side of the roll will be used to bond to the next length. Ensure the rolls are running level with each other.

Fold back the insulated tab on the edge of the **Low-E® EZ** and butt it together with the tab on the next roll.

Peel off the release paper and press the two insulated tabs tightly together. For best appearance and easiest installation, it is advisable to complete this approximately one at a time.

Staple the seam every 200-300mm. If the EZ strip is not sticking because of moisture in the air, staple every 100-200mm and seal using **Low-E® Seam Tape**.

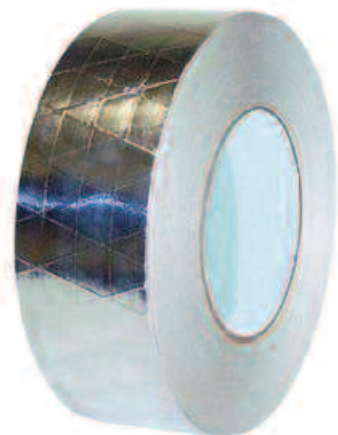
To maintain Class A/ Class 1 Fire Rating, all seams that are left exposed to conditioned spaces MUST be sealed using **Low-E® Seam Tape**.

Low-E® Seam Tape

Always tape **Low-E®** when surfaces are clean and dry. Low-E should be taped at junctions with walls, windows and doors. When joining or replacing sections of **Low-E®**, **Low-E® Seam Tape** should always be used.

All seams that are exposed to conditioned spaces must be taped with **Low-E® Seam Tape**.

Use a utility knife or a pair of scissors to cut the **Low-E® Seam Tape**. Tearing the tape may stretch it.



Joining Rolls

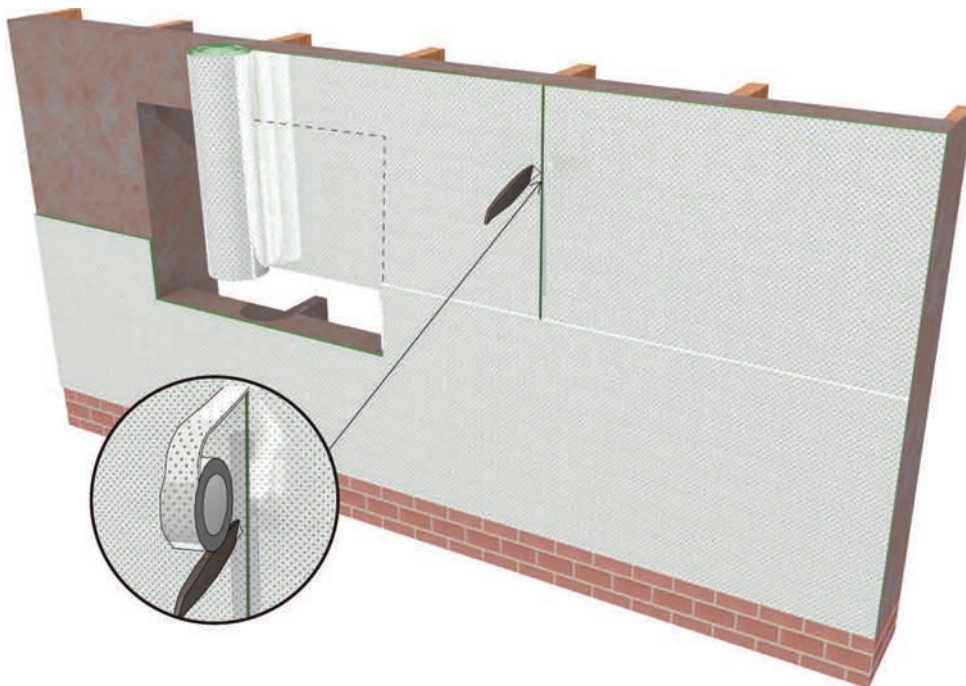
Ensure that the area is clean and dry. Place the two pieces of Low-E® you wish to join on a clean, flat surface and butt them together. Seal the join using Low-E® Seam Tape. Turn the insulation over and repeat on the other side.

In Situ

Overlap the new run of Low-E® with the run which is already in place (over the closest support batten) and start fitting the new run. Once the new run is secured, cut along the centre of the support batten where the two runs overlap and remove the waste.

Place double-sided tape on the face of the support batten and remove the paper backing from the double sided tape. Secure the runs back against the support batten.

Apply Low-E® Seam Tape to the face of the join using a squeegee by firmly pressing it down on the tape while running it the length of the join. The Low-E® Seam Tape will blend in perfectly with the insulation.



Repairs

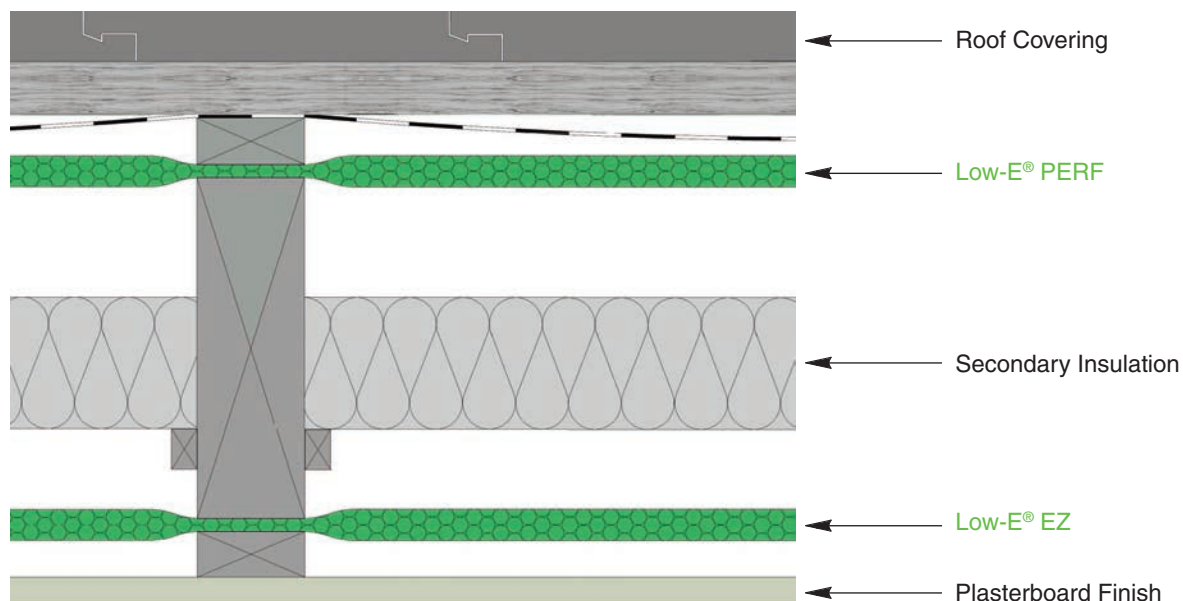
If it happens (and occasionally it does) that material gets damaged on site after it has been installed. Don't worry, just cut a replacement piece of Low-E® slightly wider than the spacing between the nearest support battens.

Place the replacement piece over the damaged area and cut along the centre of the two nearest support battens. Remove the excess material and the damaged piece of Low-E®.

Place double-sided tape on both of support battens and remove the paper backing from the double-sided tape. Put the replacement piece into place. Apply Low-E® Seam Tape to the face of the seams by firmly pressing it down on the tape while running the length of the join.

Once complete, the Low-E® Seam Tape will blend in perfectly with the insulation

Low-E® Insulation can be installed above and or below rafters. It is always recommended to use **Low-E® EZ** (Vapour Control Layer) on the internal side of a structure and **Low-E® PERF** (breathable) on the external side.



Unrolling and Fixing

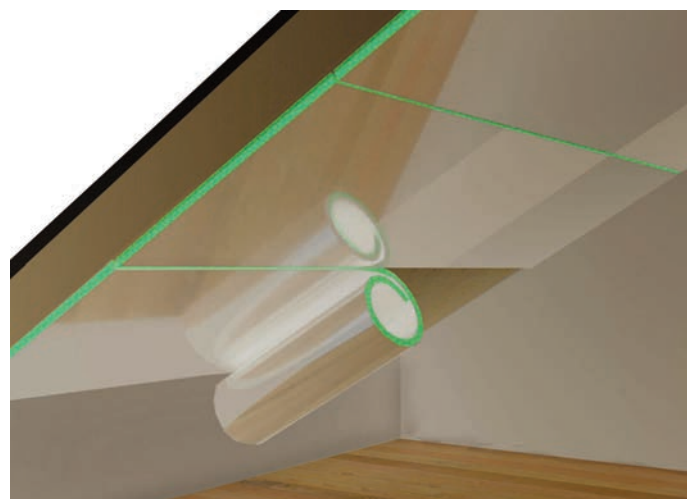
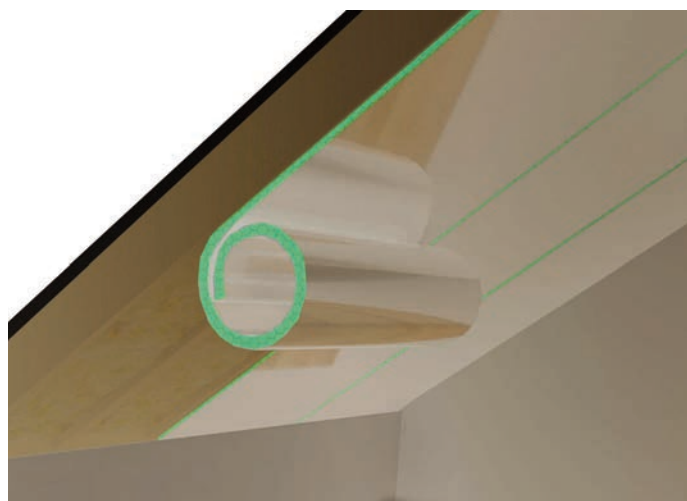
Roll out **Low-E®** either parallel or perpendicular to the rafters. Alternatively you can cut **Low-E®** to length and then place it on the roof. Staple **Low-E®** in place on the roof as you go.

Always cut **Low-E®** 50-100mm longer than required to ensure all exposed ends of **Low-E®** can be folded back to stop air ingress. Make sure the material is running square with the roof.

You can use double sided tape on the rafters to help hold **Low-E®** in place when you are starting the run. OR secure the start of the run in place using a C-clamp and a block of wood.

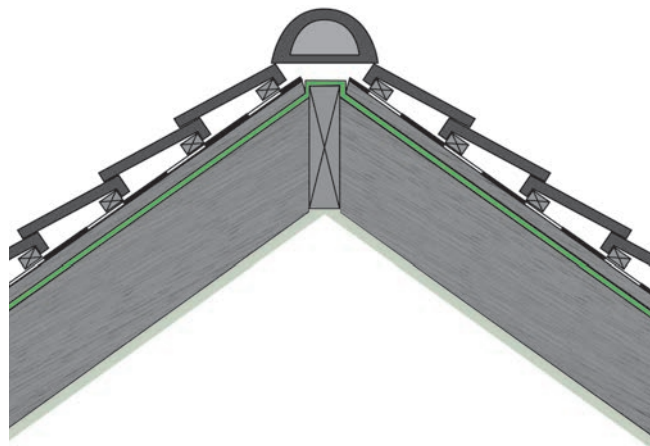
Once the run is complete, start the next run and join the runs together as described in the 'Joining' section.

Follow the sections for 'Above Rafter' and 'Below Rafter' on the following pages.

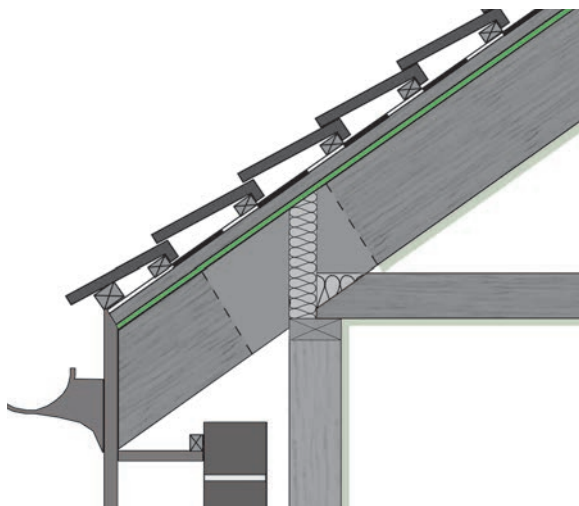


Finishing at Ridge, Eaves & Gable

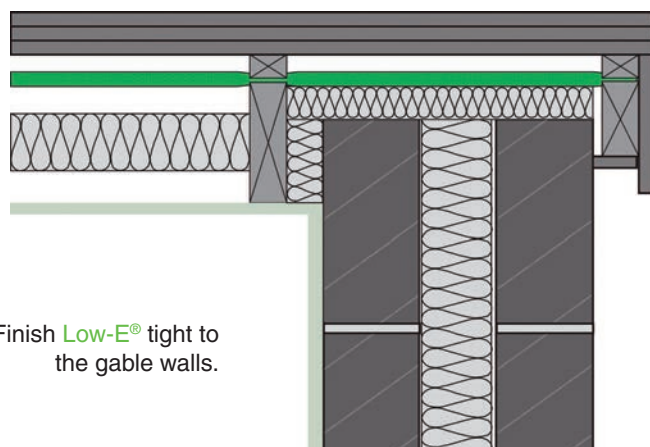
Finish Low-E® up to the ridge and join rolls using Low-E® Seam Tape.



Finish Low-E® down to the fascia board and be sure to stop air ingress.



Finish Low-E® tight to the gable walls.



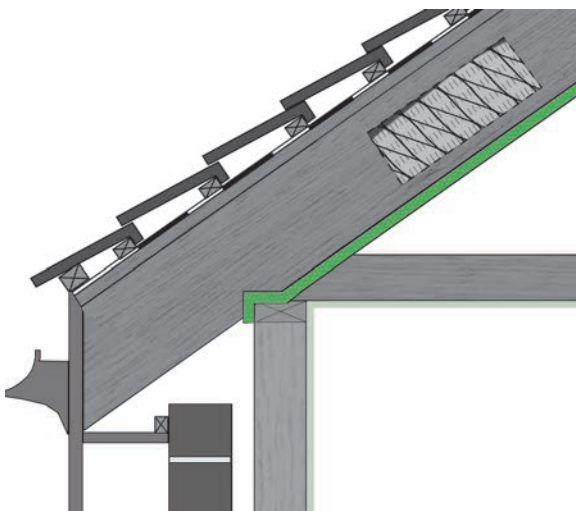
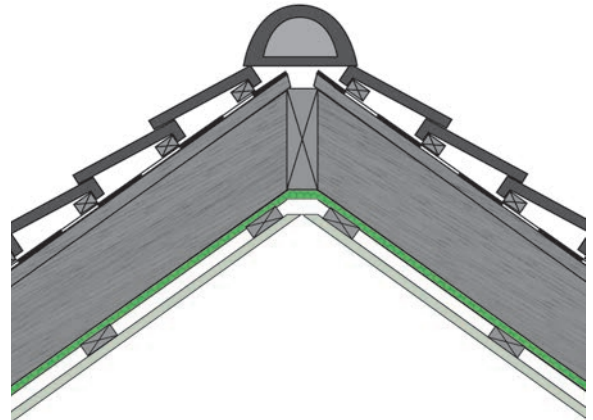
The rafters should be counter battened, the roof membrane installed, and the roof finished to requirements and applicable standards. If a roofing deck or sarking board is being installed, you can allow Low-E® to sag between the rafters to create an airspace between Low-E® and the board.

If you decide to install Low-E® on the external side of the roof and it is required by your local regulations to install a vapour barrier below the rafters (internally), you can use:

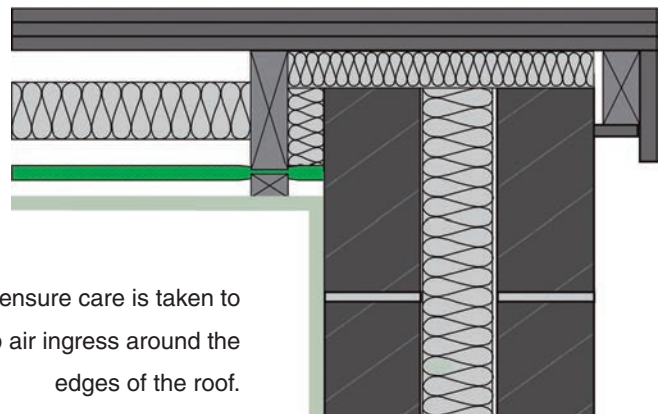
- 1) A second layer of Low-E®
- 2) A foil-backed plaster board with the joints between the boards well sealed
- 3) A 500 gauge polythene sheet

Ridge, Eaves & Gable

Finish Low-E® up to the ridge and join rolls using Low-E® Seam Tape.



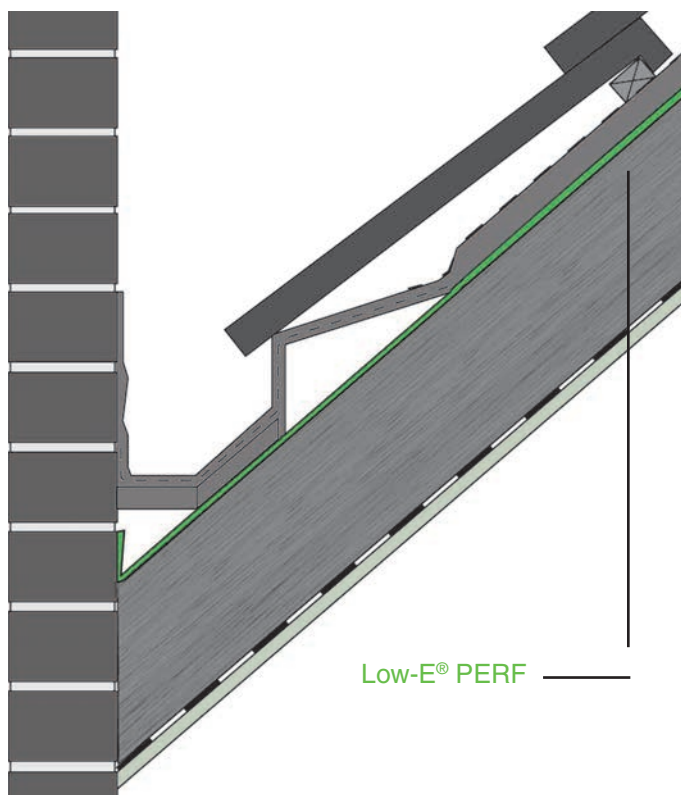
Finish Low-E® down to the wall plate and staple securely in place.



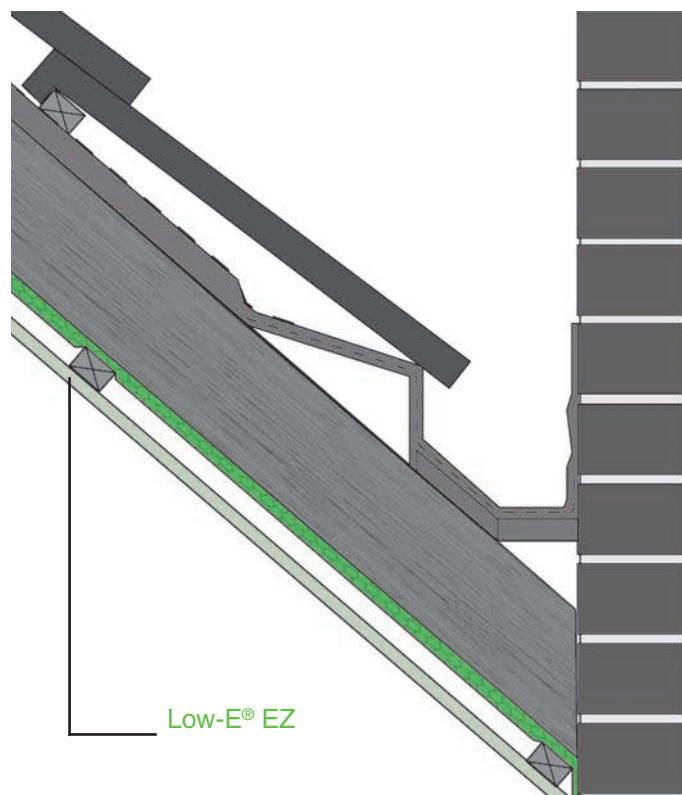
Always ensure care is taken to stop air ingress around the edges of the roof.

Once installed, the rafters should be counter battened to create a service void and the ceiling finished as per requirements.

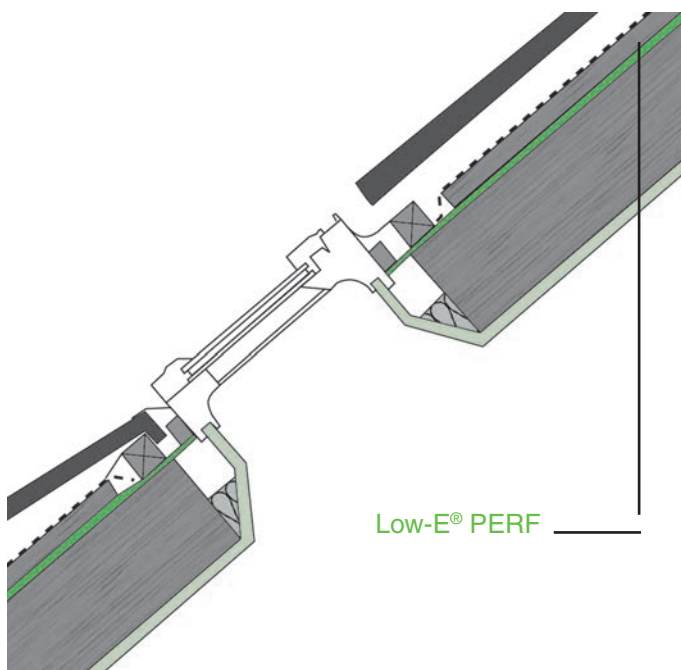
Above Rafter



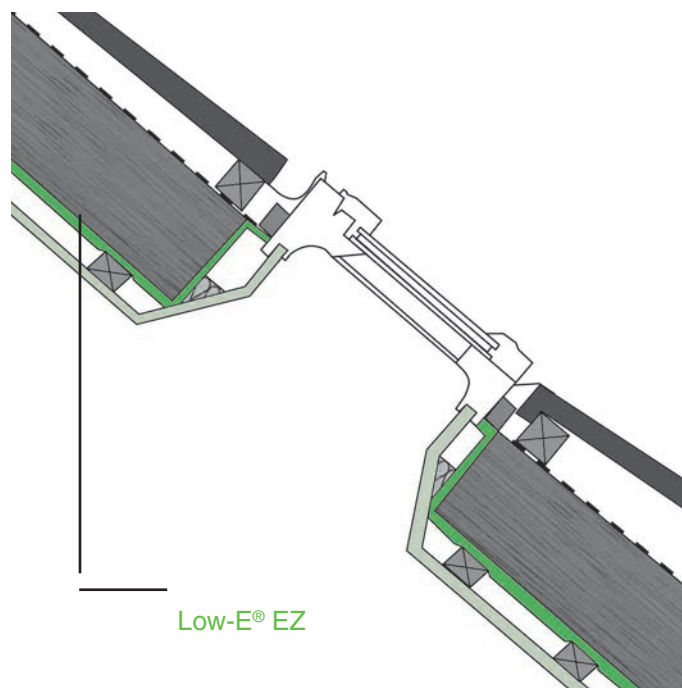
Below Rafter



Roof Light



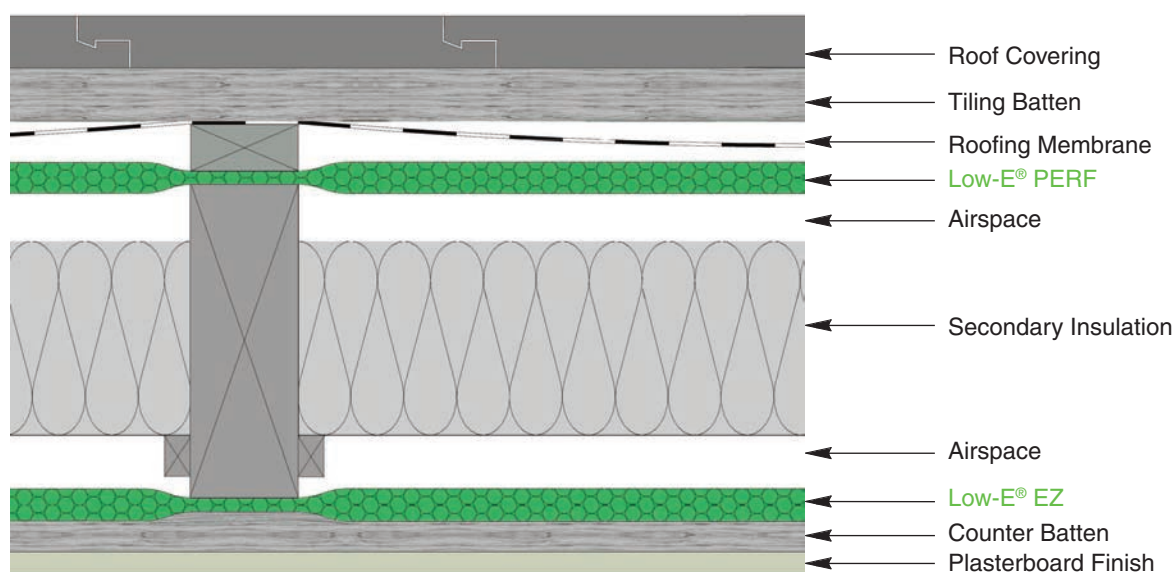
Roof Light



Above & Below Rafter - Partial Fill

New build roofs tend to be constructed using 150mm rafters which leaves more than enough room to install any type of secondary insulation from Phenolic Foam and PIR, to Mineral Fibre or even Natural Fibre insulation.

In this example **Low-E® PERF** and **Low-E® EZ** are counter battened above and below both layers. The counter battening maintains the airspace and creates a service void.



50mm Rafter @ 600 Centres (8.33% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
50 mm	0.20
60 mm	0.18
80 mm	0.16

Mineral Fibre (λ 0.032)	U- Value W/m ² K
70 mm	0.20
90 mm	0.18
115 mm	0.16

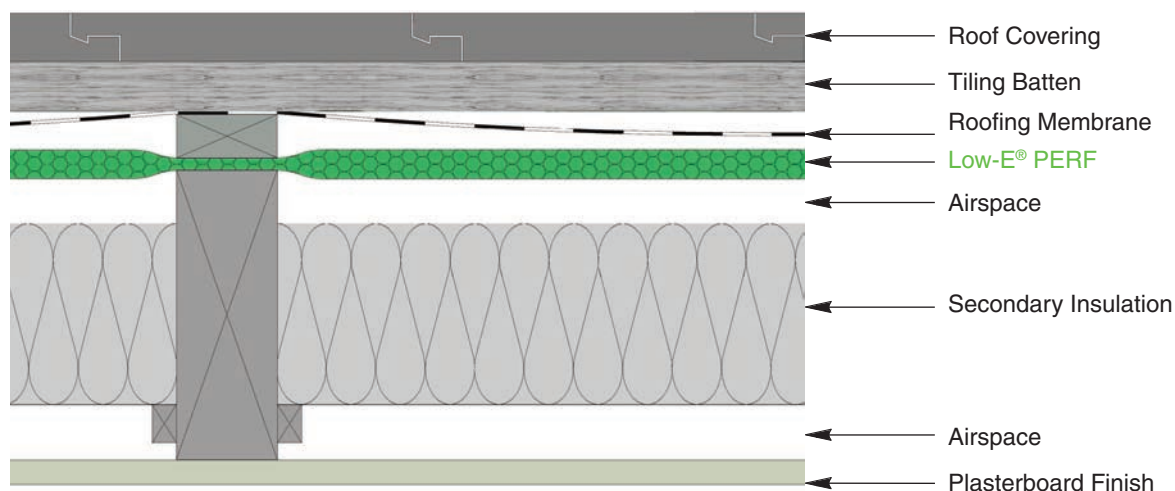
50mm Rafter @ 600 Centres (8.33% TB)

PIR (λ 0.022)	U- Value W/m ² K
55 mm	0.20
65 mm	0.18
85 mm	0.16

Mineral Fibre (λ 0.038)	U- Value W/m ² K
80 mm	0.20
105 mm	0.18
130 mm	0.16

Above Rafter - Partial Fill

Low-E® PERF is the only certified 'breathable' foil insulation on sale. It can be installed over the rafters with a secondary insulation between the rafters. In this example Low-E® PERF is installed with rigid foam insulation before being counter battened and a breather membrane is installed. Low-E® PERF is primarily an insulation product and does not offer fall protection.



50mm Rafter @ 600 Centres (8.33% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
75 mm	0.20
85 mm	0.18
105 mm	0.16

PIR (λ 0.022)	U- Value W/m ² K
80 mm	0.20
95 mm	0.18
115 mm	0.16

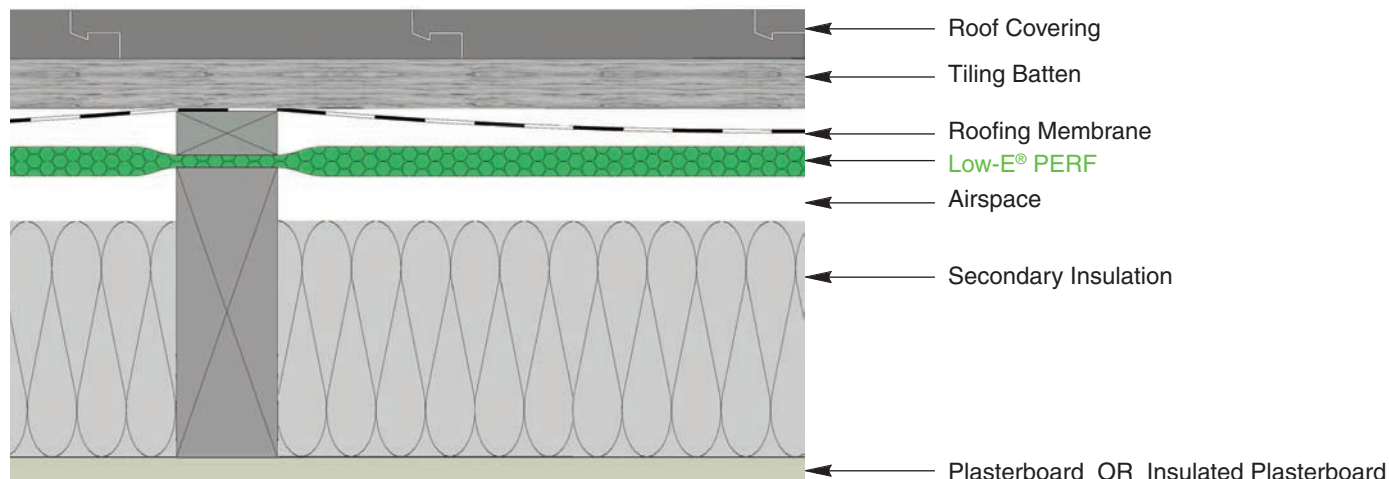
37mm Rafter @ 400 Centres (9.25% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
75 mm	0.20
90 mm	0.18
110 mm	0.16

PIR (λ 0.022)	U- Value W/m ² K
80 mm	0.20
95 mm	0.18
115 mm	0.16

Above Rafter - Full Fill

Low-E® PERF can be installed with a full fill of Mineral Fibre insulation between the rafters, before being counter batted and a breather membrane is installed.



50mm Rafter @ 600 Centres (8.33% TB) - Standard Plasterboard

Mineral Fibre (λ 0.032)	U- Value W/m ² K
125 mm	0.20
145 mm	0.18
170 mm	0.16

Plasterboard w/ (λ 0.022)	Mineral Fibre (λ 0.032)	U- Value W/m ² K
20 mm	90 mm	0.20
20 mm	110 mm	0.18
20 mm	135 mm	0.16

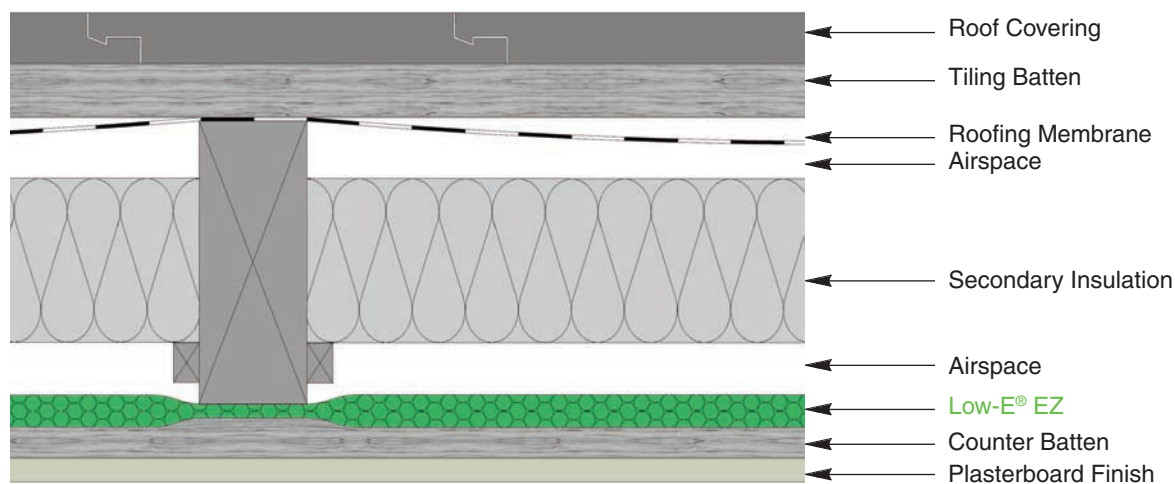
50mm Rafter @ 600 Centres (8.33% TB) - Insulated Plasterboard

Mineral Fibre (λ 0.038)	U- Value W/m ² K
145 mm	0.20
165 mm	0.18
195 mm	0.16

Plasterboard w/ (λ 0.022)	Mineral Fibre (λ 0.038)	U- Value W/m ² K
20 mm	100 mm	0.20
20 mm	125 mm	0.18
20 mm	150 mm	0.16

Below Rafter - Partial Fill

Low-E® EZ is an airtight membrane and vapour barrier. When installed correctly, Low-E® EZ will stop draughting & air leakage. The closed cell foam core provides a thermal break in this application and limits the risk of interstitial or surface condensation. In this example, Rigid Foam is installed between the rafters and Low-E® EZ is installed below the rafters, before being counter batted and the finished ceiling is installed.



50mm Rafter @ 600 Centres (8.33% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
75 mm	0.20
90 mm	0.18
105 mm	0.16

PIR (λ 0.022)	U- Value W/m ² K
80 mm	0.20
95 mm	0.18
115 mm	0.16

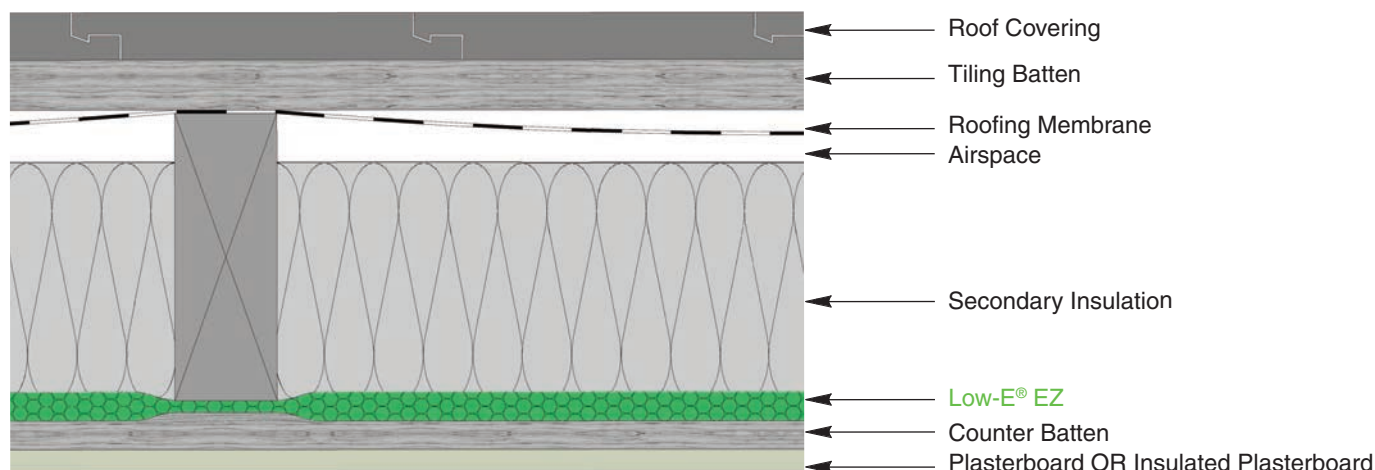
37mm Rafter @ 400 Centres (9.25% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
75 mm	0.20
90 mm	0.18
110 mm	0.16

PIR (λ 0.022)	U- Value W/m ² K
80 mm	0.20
95 mm	0.18
115 mm	0.16

Below Rafter - Full Fill

When installing a Mineral Fibre it can be difficult to maintain an airspace on both sides of the Low-E® EZ. In this example Low-E® EZ is installed with a full fill of Mineral Fibre between the rafters. The Mineral Fibre rests directly on the Low-E® Insulation, before counter battening and the finished ceiling is installed.



50mm Rafter @ 600 Centres (8.33% TB) - Standard Plasterboard

Mineral Fibre (λ 0.032)	U- Value W/m ² K
145 mm	0.20
170 mm	0.18

Plasterboard w/ (λ 0.022)	Mineral Fibre (λ 0.032)	U- Value W/m ² K
20 mm	105 mm	0.20
20 mm	125 mm	0.18
20 mm	150 mm	0.16

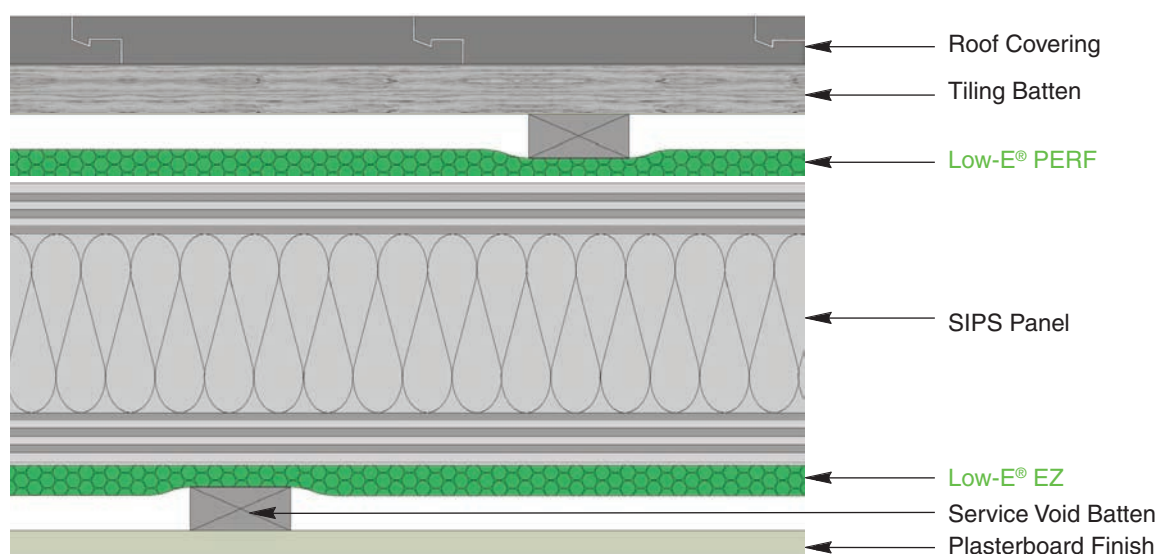
50mm Rafter @ 600 Centres (8.33% TB) - Insulated Plasterboard

Mineral Fibre (λ 0.038)	U- Value W/m ² K
165 mm	0.20
195 mm	0.18

Plasterboard w/ (λ 0.022)	Mineral Fibre (λ 0.038)	U- Value W/m ² K
20 mm	120 mm	0.20
20 mm	145 mm	0.18
20 mm	175 mm	0.16

SIPS Panel - Upgrade

SIPS panels are usually installed with airtight membranes internally and breather membranes externally. Installing **Low-E® EZ** and **Low-E® PERF** in place of these membranes does not add any labour steps to the build, but will increase the thermal performance of these highly efficient systems and reduce the buildings life-cycle running costs.

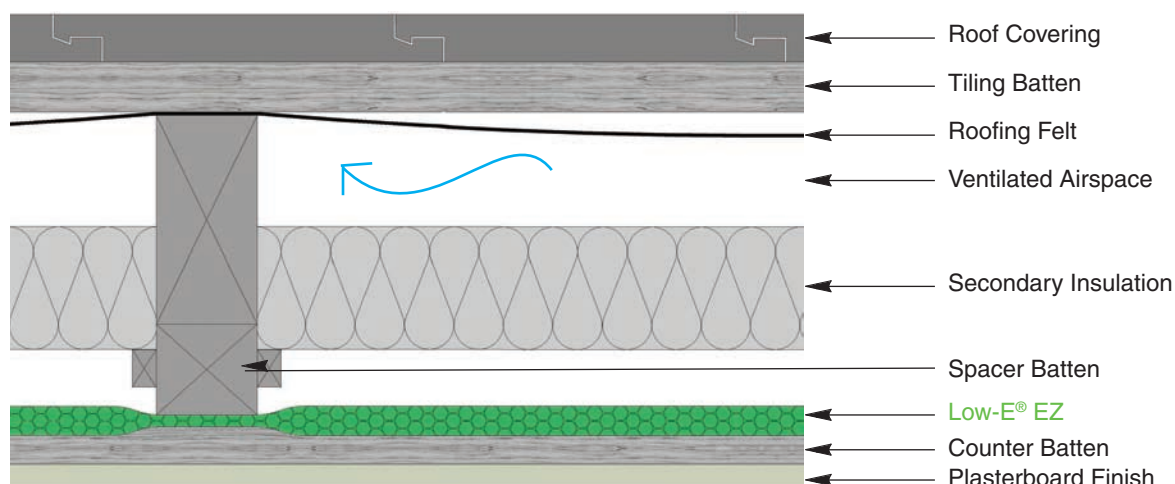


Upgrade - Adding Low-E Insulation to SIPS Panel

Panel Thickness	Insulation PIR (λ 0.022)	Existing U- Value		with Low-E
100 mm	76 mm	0.26 W/m ² K	→	0.18 W/m ² K
125 mm	101 mm	0.20 W/m ² K	→	0.15 W/m ² K
150 mm	126 mm	0.17 W/m ² K	→	0.13 W/m ² K
175 mm	151 mm	0.14 W/m ² K	→	0.12 W/m ² K

Below Rafter - Partial Fill (Roofing Felt)

Low-E® EZ can be used for refurbishment or upgrade work. When installing Low-E® EZ below rafter in a roof with no felt or a non-breathable felt, a 50mm ventilated cavity should be maintained between the underside of the roof and any additional insulation. Depending on the existing rafter size, you may need to fit a spacer batten to the underside of the rafter to create enough space for the additional insulation. Low-E® EZ should then be fitted to the underside of the rafters before being counter batted and the finished ceiling installed. This will stop draughting and air leakage which can be the biggest cause of heat loss in refurbished buildings.



37mm Rafter @ 400 Centres (9.25% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
80 mm	0.20
95 mm	0.18
115 mm	0.16

PIR (λ 0.022)	U- Value W/m ² K
90 mm	0.20
105 mm	0.18
120 mm	0.16

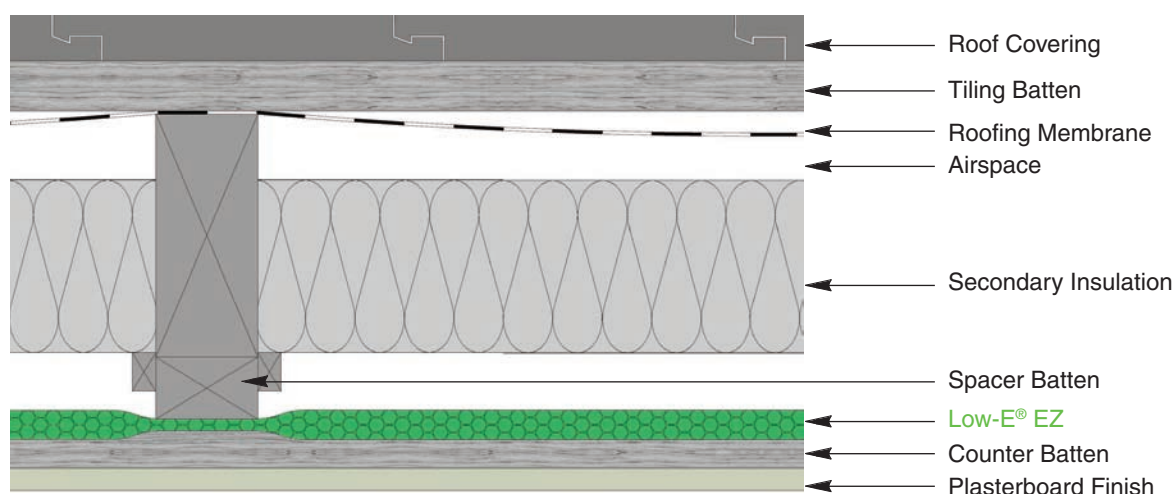
50mm Rafter @ 600 Centres (8.33% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
85 mm	0.20
95 mm	0.18
115 mm	0.16

PIR (λ 0.022)	U- Value W/m ² K
90 mm	0.20
105 mm	0.18
125 mm	0.16

Below Rafter - Partial Fill (Breather Membrane)

When refurbishing a roof with a breather membrane already in place, you may or may not require a spacer batten to install the secondary insulation while maintaining airspaces. In this example, a Rigid Foam insulation has been installed between the rafters, with Low-E® EZ installed under the rafters, before being counter batted and the finished ceiling is installed.



50mm Rafter @ 600 Centres (8.33% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
75 mm	0.20
90 mm	0.18
105 mm	0.16

PIR (λ 0.022)	U- Value W/m ² K
80 mm	0.20
95 mm	0.18
115 mm	0.16

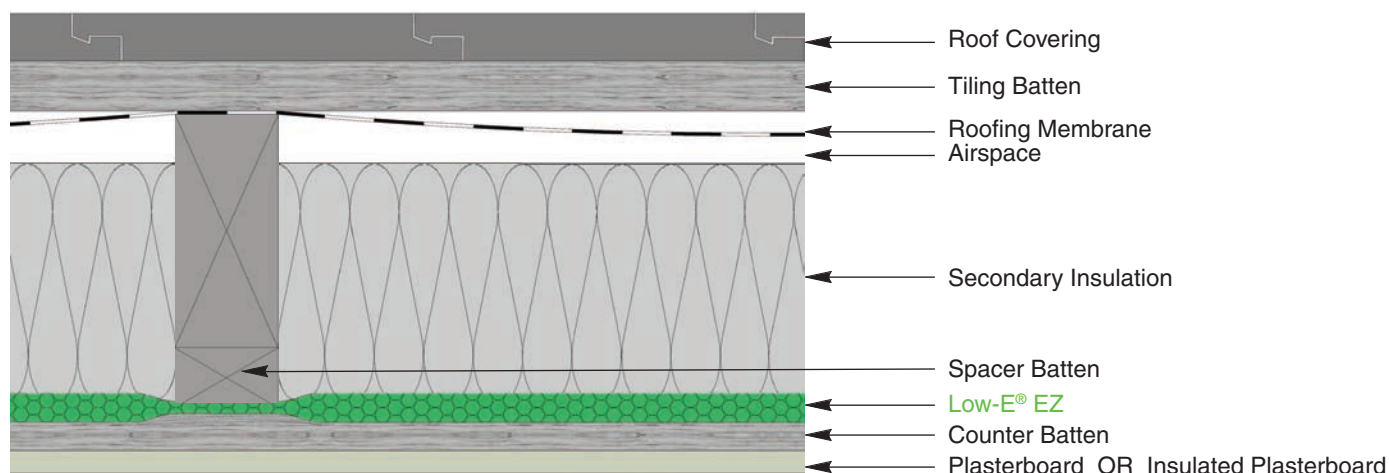
37mm Rafter @ 400 Centres (9.25% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
75 mm	0.20
90 mm	0.18
110 mm	0.16

PIR (λ 0.022)	U- Value W/m ² K
80 mm	0.20
95 mm	0.18
115 mm	0.16

Below Rafter - Full Fill (Breather Membrane)

When installing a Mineral Fibre between rafter on a existing roof, it can be difficult to maintain an airspace on both sides of the Low-E® EZ. In this example Low-E® EZ is installed with a full fill of mineral fibre between the rafters, before being counter batted and the finished ceiling is installed. It is important to maintain a sag on the breather membrane after the Mineral Fibre has been installed. A spacer batten may be required below the rafters to facilitate this.



50mm Rafter @ 600 Centres (8.33% TB) - Standard Plasterboard

Mineral Fibre (λ 0.032)	U- Value W/m ² K
145 mm	0.20
170 mm	0.18

Plasterboard w/ (λ 0.022)	Mineral Fibre (λ 0.032)	U- Value W/m ² K
20 mm	105 mm	0.20
20 mm	125 mm	0.18
20 mm	150 mm	0.16

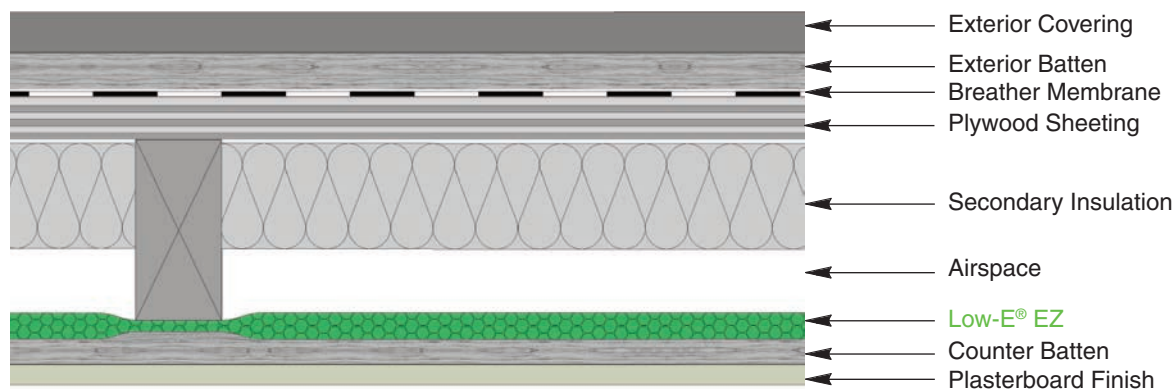
50mm Rafter @ 600 Centres (8.33% TB) - Insulated Plasterboard

Mineral Fibre (λ 0.038)	U- Value W/m ² K
165 mm	0.20
195 mm	0.18

Plasterboard w/ (λ 0.022)	Mineral Fibre (λ 0.038)	U- Value W/m ² K
20 mm	120 mm	0.20
20 mm	145 mm	0.18
20 mm	175 mm	0.16

Dormer Inside

Low-E® EZ can be installed inside a dormer cheek to increase thermal performance and provides air tightness and moisture protection.



50mm Rafter @ 600 Centres (8.33% TB)

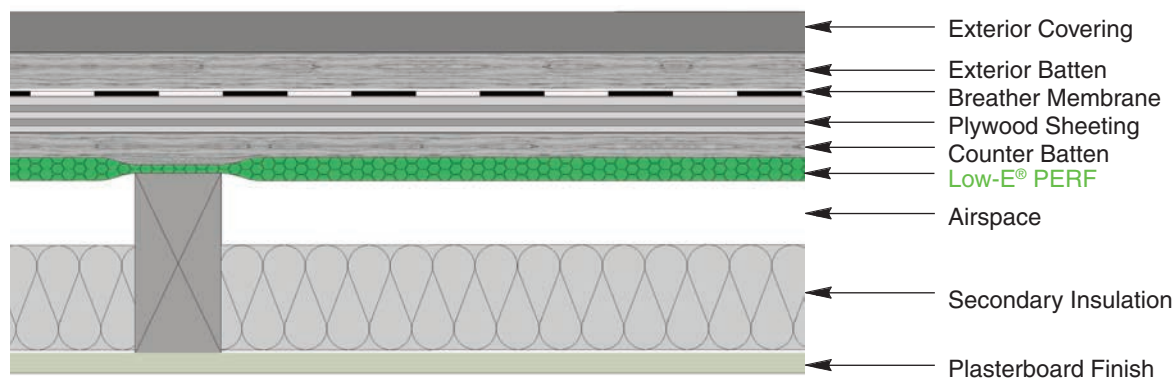
PIR (λ 0.022)	U- Value W/m ² K
30 mm	0.30
40 mm	0.27
60 mm	0.23

50mm Rafter @ 600 Centres (8.33% TB)

Mineral Fibre (λ 0.032)	U- Value W/m ² K
50 mm	0.28
75 mm	0.24
100 mm	0.21

Dormer Outside

Low-E® PERF can be installed on the exterior side of a dormer cheek to increase thermal performance and reduce draughts.



50mm Rafter @ 600 Centres (8.33% TB)

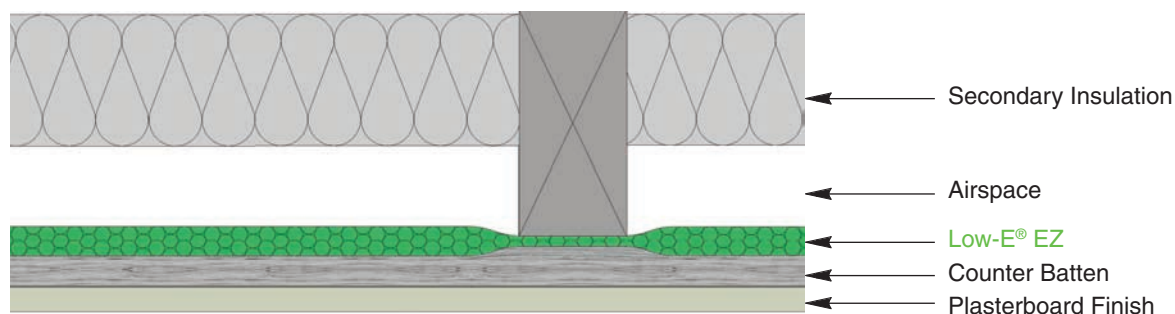
PIR (λ 0.022)	U- Value W/m ² K
30 mm	0.30
40 mm	0.27
60 mm	0.23

50mm Rafter @ 600 Centres (8.33% TB)

Mineral Fibre (λ 0.032)	U- Value W/m ² K
50 mm	0.28
75 mm	0.24
100 mm	0.21

Dwarf Walls - Partial Fill

When installing Rigid Foam between the studs in a dwarf wall, Low-E® EZ can be installed on the internal side of the walls to increase thermal performance and provide air tightness and moisture protection.



50mm Rafter @ 600 Centres (8.33% TB)

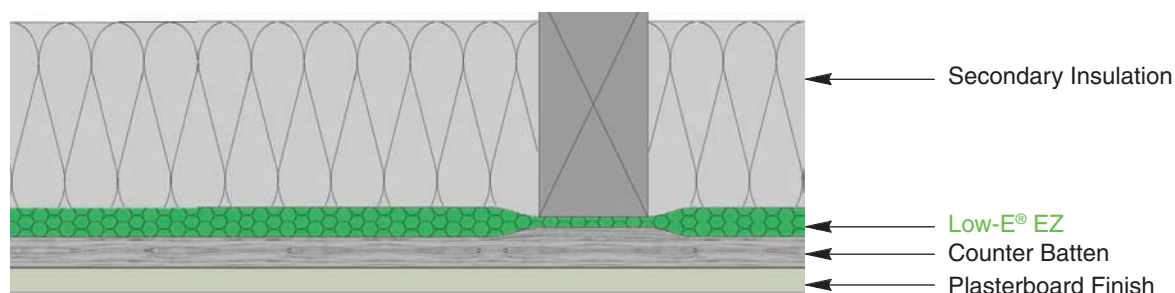
Phenolic Foam (λ 0.020)	U- Value W/m ² K
30 mm	0.30
40 mm	0.27
60 mm	0.22

50mm Rafter @ 600 Centres (8.33% TB)

PIR (λ 0.022)	U- Value W/m ² K
35 mm	0.29
50 mm	0.25
60 mm	0.23

Dwarf Walls - Full Fill

If you are using a Mineral Fibre to insulate between studs in a dwarf wall it can be hard to maintain airspaces on both sides of Low-E® EZ. In this example, the dwarf walls have a full fill of Mineral Fibre with Low-E® EZ installed on the internal side of the walls. A counter batten is then used to maintain an airspace and service void.



50mm Rafter @ 600 Centres (8.33% TB)

Mineral Fibre (λ 0.032)	U- Value W/m ² K
75 mm	0.30
100 mm	0.25
120 mm	0.22

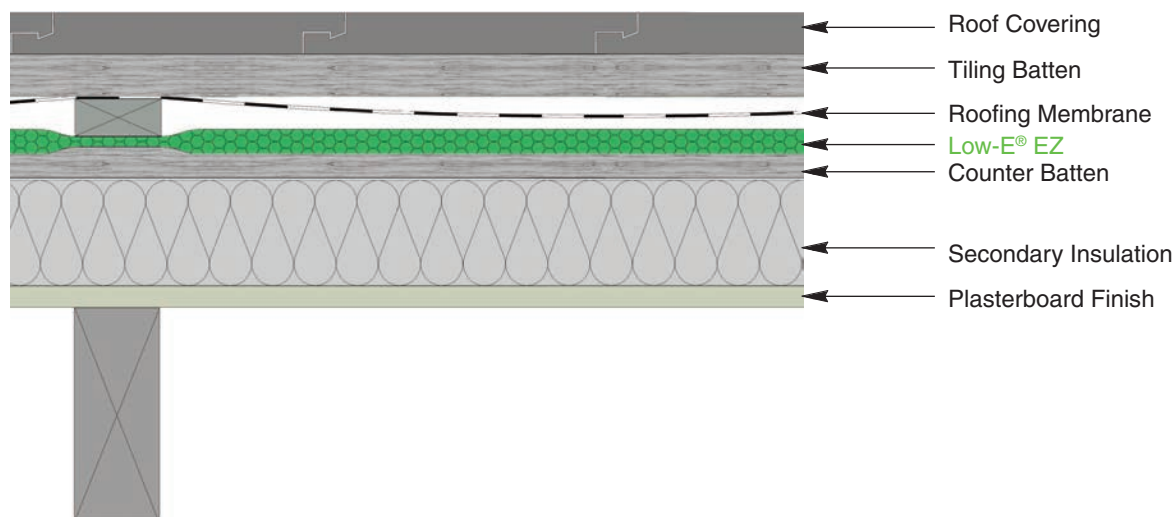
50mm Rafter @ 600 Centres (8.33% TB)

Mineral Fibre (λ 0.038)	U- Value W/m ² K
90 mm	0.29
120 mm	0.24
150 mm	0.21

Barn Conversions - Fully Exposed Rafter

Often the main objective of a project is to maintain and showcase the character of a building. When this happens there is always a compromise between meeting standards or prescribed U-values versus, maintaining character and limiting the amount of space occupied by the upgrade.

In this example, the rafters have been left fully exposed. Low-E® PERF has been installed above a secondary insulation before being counter batted and the roof covering is installed.



50mm Rafter @ 600 Centres (8.33% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
45 mm	0.25
65 mm	0.20
75 mm	0.18

Rigid Fibre (λ 0.032)	U- Value W/m ² K
75 mm	0.25
105 mm	0.20
120 mm	0.18

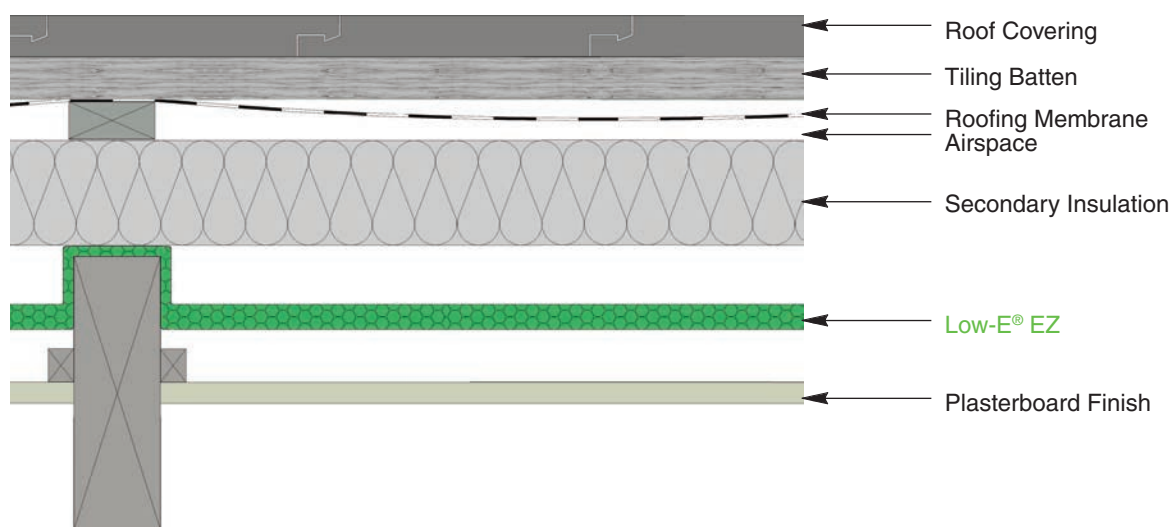
50mm Rafter @ 600 Centres (8.33% TB)

PIR (λ 0.022)	U- Value W/m ² K
50 mm	0.25
70 mm	0.20
85 mm	0.18

Rigid Fibre (λ 0.038)	U- Value W/m ² K
80 mm	0.26
125 mm	0.20
145 mm	0.18

Barn Conversions - Partially Exposed Rafter

Restrictions on roof heights can often mean it is not possible to maintain fully exposed rafters internally. In this example, **Low-E® EZ** has been installed over the top of the rafters and draped into the rafter cavity. A secondary insulation is then installed over the top of the rafters and the finished ceiling is then fitted between the rafters with the use of small timber battens.



50mm Rafter @ 600 Centres (8.33% TB)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
40 mm	0.24
55 mm	0.20
70 mm	0.18

Rigid Fibre (λ 0.032)	U- Value W/m ² K
75 mm	0.25
100 mm	0.20
115 mm	0.18

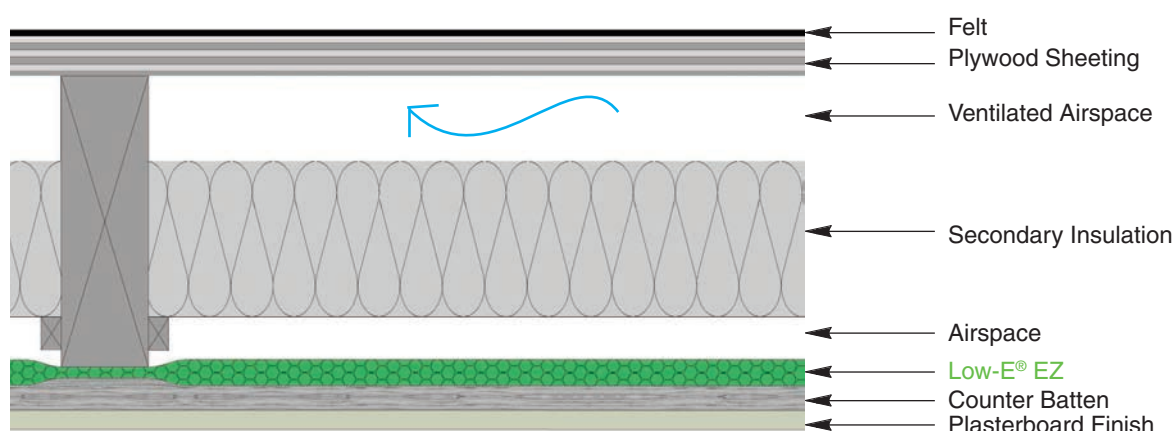
50mm Rafter @ 600 Centres (8.33% TB)

PIR (λ 0.022)	U- Value W/m ² K
40 mm	0.25
65 mm	0.20
75 mm	0.18

Rigid Fibre (λ 0.038)	U- Value W/m ² K
95 mm	0.26
140 mm	0.20
160 mm	0.18

Flat Roof - Partial Fill

Flat roofs are designed with ventilated airspaces below the timber deck. These ventilated airspaces are necessary for the structure, but often create draughts within the building. Installing Low-E® EZ below the roof can reduce the amount of insulation required between the joists and stops draughting within the building itself. This example shows Low-E® EZ installed with a rigid foam between the joists before the finished ceiling is installed.



50mm Rafter @ 600 Centres (8.33% TB)

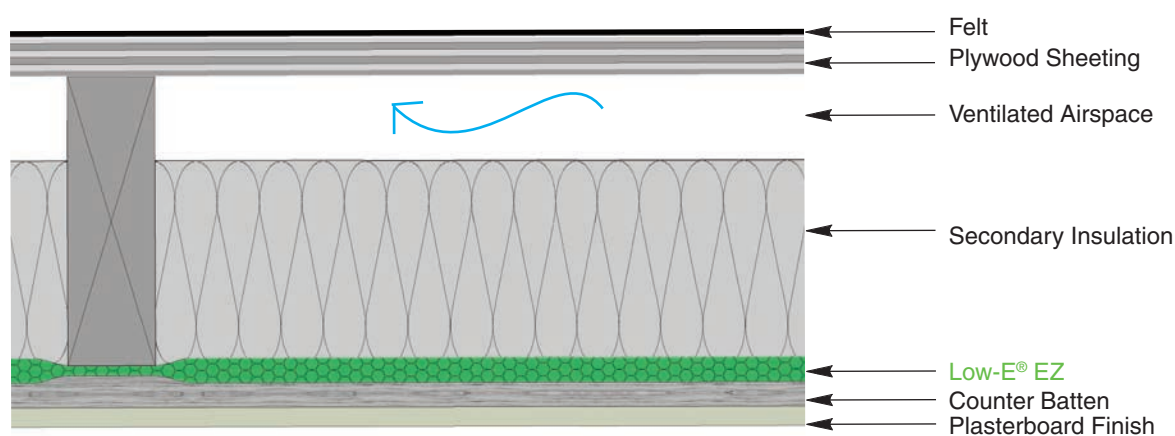
Phenolic Foam (λ 0.020)	U- Value W/m ² K
80 mm	0.20
95 mm	0.18
115 mm	0.16

50mm Rafter @ 600 Centres (8.33% TB)

PIR (λ 0.022)	U- Value W/m ² K
90 mm	0.20
105 mm	0.18
125 mm	0.16

Flat Roof - Full Fill

When installing a Mineral Fibre between joists, it is not very easy to maintain airspaces on both sides of Low-E®. In this example, Low-E® has been installed with a full fill of Mineral Fibre between the joists and Low-E® EZ installed below the joists before being counter batted and the finished ceiling is installed.



50mm Rafter @ 600 Centres (8.33% TB)

Mineral Fibre (λ 0.032)	U- Value W/m ² K
140 mm	0.20
160 mm	0.18
195 mm	0.16

50mm Rafter @ 600 Centres (8.33% TB)

Mineral Fibre (λ 0.038)	U- Value W/m ² K
160 mm	0.20
180 mm	0.18

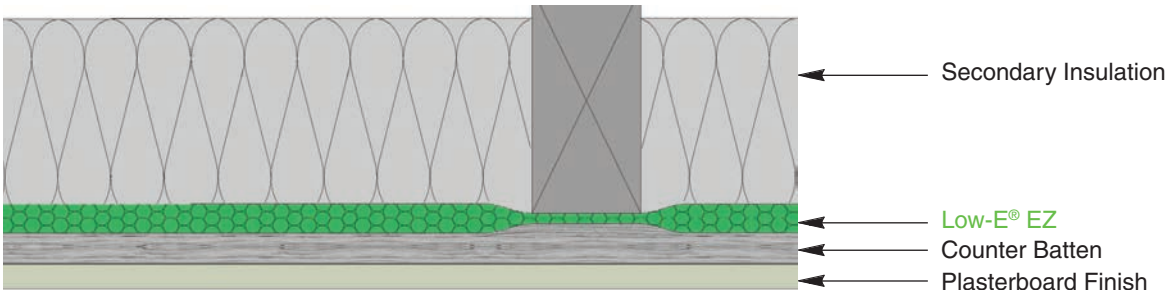


There are a number of ways of installing Low-E® in an attic or on a ceiling, to upgrade your insulation, stop draughting, air leakage and provide moisture protection.

When installed above a secondary insulation, it is always recommended that you use Low-E® PERF, our breathable foil Insulation.

This allows vapour transmission to pass through Low-E® and stops the vapour from being left behind and absorbed by a fibrous insulation.

Low-E® EZ under Ceiling



Ceiling Upgrade - Add Low-E® Insulation

Joist Depth	Existing Insulation	Existing U-value		with Low-E
150 mm	100 mm (λ 0.032)	0.34 W/m² K	→	0.27 W/m² K
150 mm	120 mm (λ 0.032)	0.30 W/m² K	→	0.24 W/m² K
150 mm	150 mm (λ 0.032)	0.25 W/m² K	→	0.20 W/m² K

Low-E® PERF under Rafter



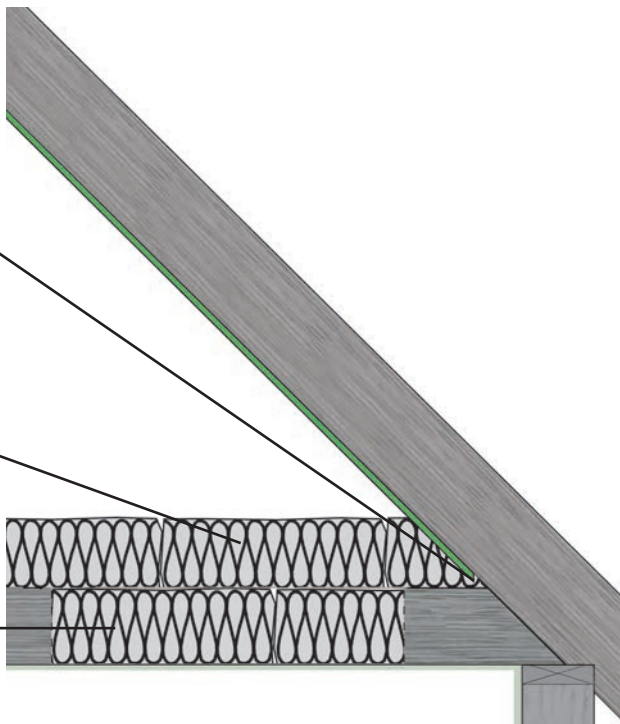
In this example there is already a layer of traditional insulation installed between the joists. Low-E® PERF has been installed on the underside of the rafters and there is an option to install an additional second layer of traditional insulation over the top of the joists.

Adding Low-E® PERF in this application will increase thermal performance and reduce draughting in the loft space. Draughting and air leakage can account for up to 40% of heat loss in a building.

Ensure Low-E® is fitted tight to the edge of the roof to reduce air ingress.

Secondary Insulation layer installed over the first.

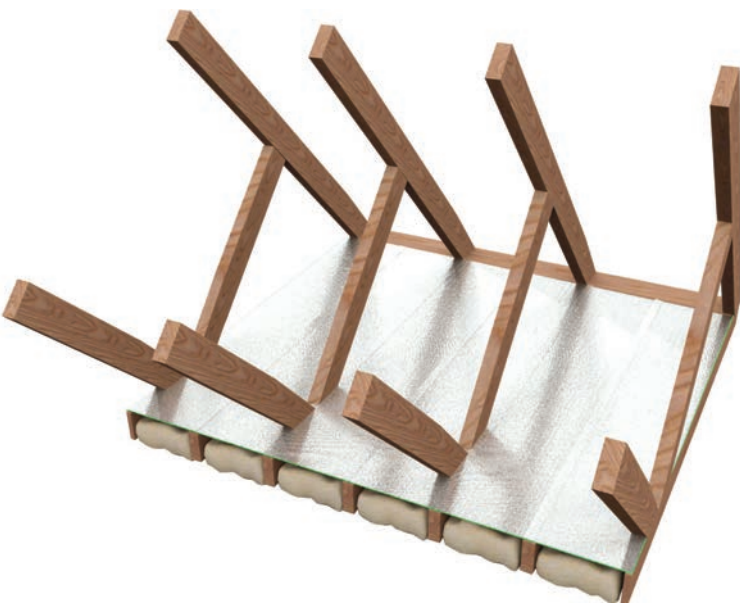
Existing Insulation Layer.



Add Low-E® Insulation

Existing Insulation	Existing U-value		Low-E PERF +	NEW U-value
100 mm (λ 0.032)	0.34 W/m² K	→	NONE	0.27 W/m² K
100 mm (λ 0.032)	0.34 W/m² K	→	50 mm (λ 0.032)	0.19 W/m² K
100 mm (λ 0.032)	0.34 W/m² K	→	75 mm (λ 0.032)	0.16 W/m² K
150 mm (λ 0.032)	0.29 W/m² K	→	50 mm (λ 0.032)	0.15 W/m² K
150 mm (λ 0.032)	0.29 W/m² K	→	100 mm (λ 0.032)	0.12 W/m² K

Low-E® PERF over Joists

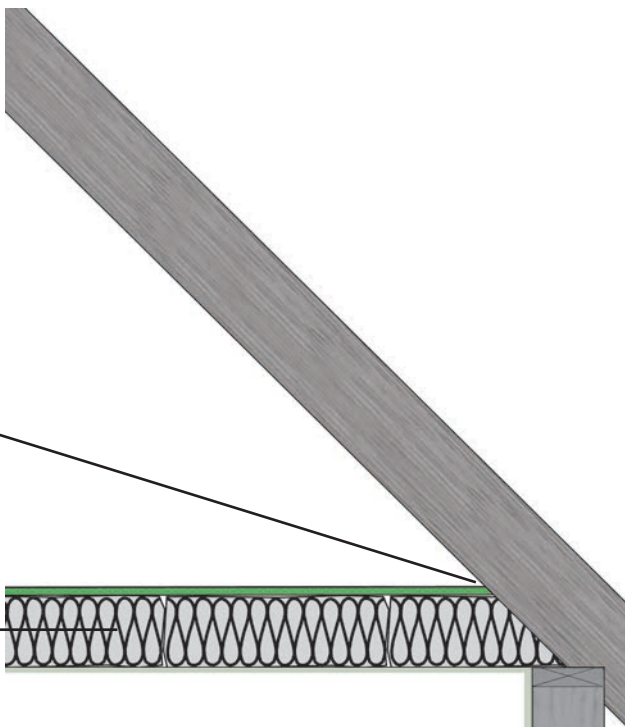


This example shows where there is NO insulation installed in a loft. A layer of secondary insulation is installed between the joists and Low-E® PERF is installed over the top of the joists. This leaves the floor of the loft free to be used for storage

No existing insulation installed.

Ensure Low-E® is fitted tight to the edge of the roof to reduce air ingress.

Secondary Insulation layer.

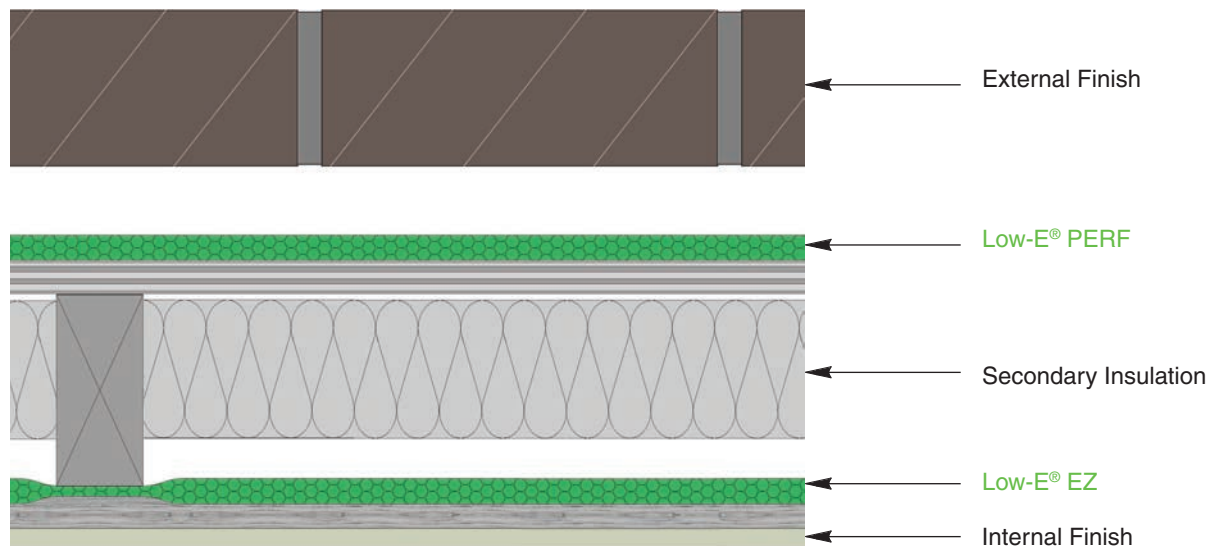


Add Low-E® Insulation

Existing Insulation	Existing U-value		Low-E PERF +	NEW U-value
NONE	2.30 W/m² K	→	100 mm (λ 0.032)	0.27 W/m² K
NONE	2.30 W/m² K	→	150 mm (λ 0.032)	0.20 W/m² K
NONE	2.30 W/m² K	→	75 mm (λ 0.022)	0.26 W/m² K
NONE	2.30 W/m² K	→	100 mm (λ 0.022)	0.21 W/m² K
NONE	2.30 W/m² K	→	125 mm (λ 0.022)	0.18 W/m² K

Walls - Installation

Low-E® can be installed internally or externally on a timber frame. It is always recommended that you use Low-E® EZ (Vapour Control Layer) on the internal side and Low-E® PERF (breathable) on the external side.



Unrolling and Fixing

Low-E® should be rolled out across the face of the wall. It can be rolled out either parallel with the floor or vertically. Alternatively you can cut Low-E® to length and then place it against the wall for fixing. Staple Low-E® in place as you move along the frame.

Always cut Low-E® 50-100mm longer than required at all ends, to ensure all exposed ends of Low-E® can be folded to stop air ingress. Make sure the material is running square with the wall.

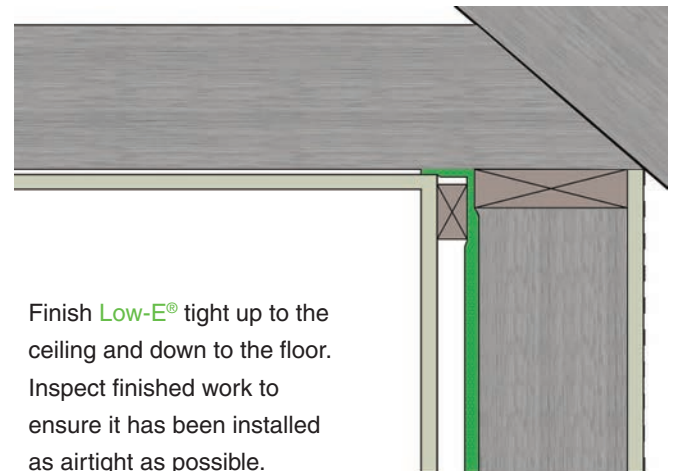
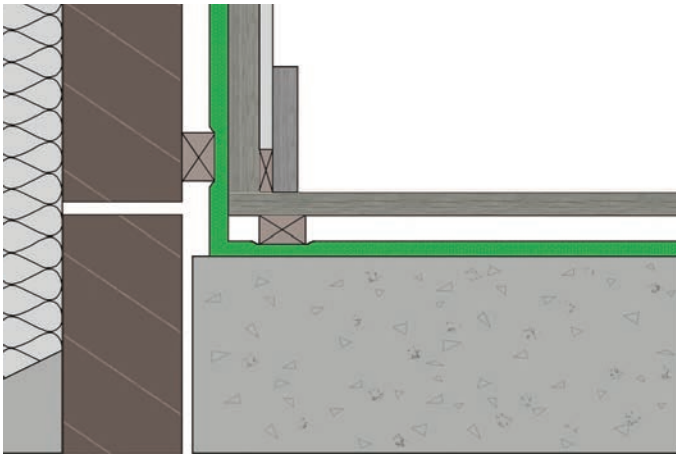
You can use double sided tape on the frame to hold Low-E® in place when you are starting the run. Or secure the start of the run in place using a C-clamp and a block of wood.

Once the run is complete go back to start and roll the out the next length as before. Join runs or rolls together as described in the 'Joining' section.



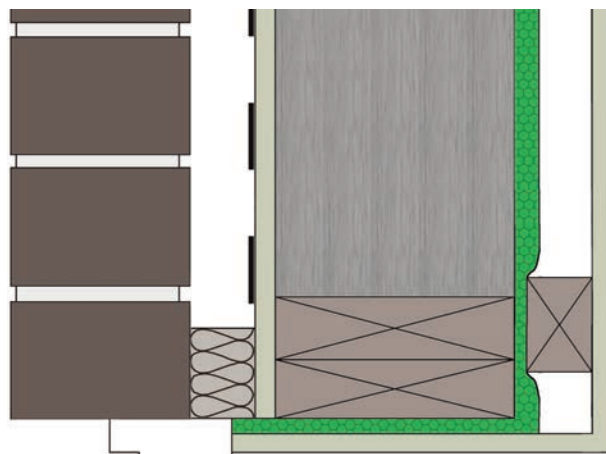
Walls - Installation (Junctions and Openings)

Junctions



Openings

Cut out carefully around doors, windows and other openings, so that it neatly abuts to the frame

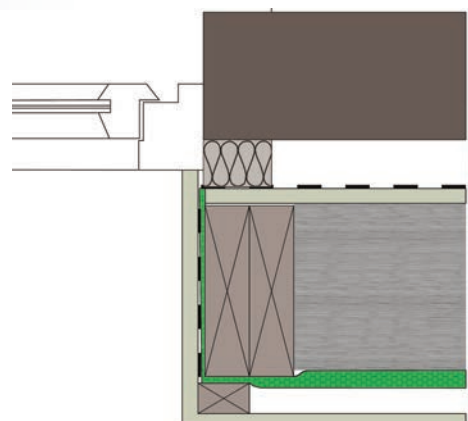


Doors and Windows

Openings can be cut out in place or the run can be stopped before the opening and started again on the other side.

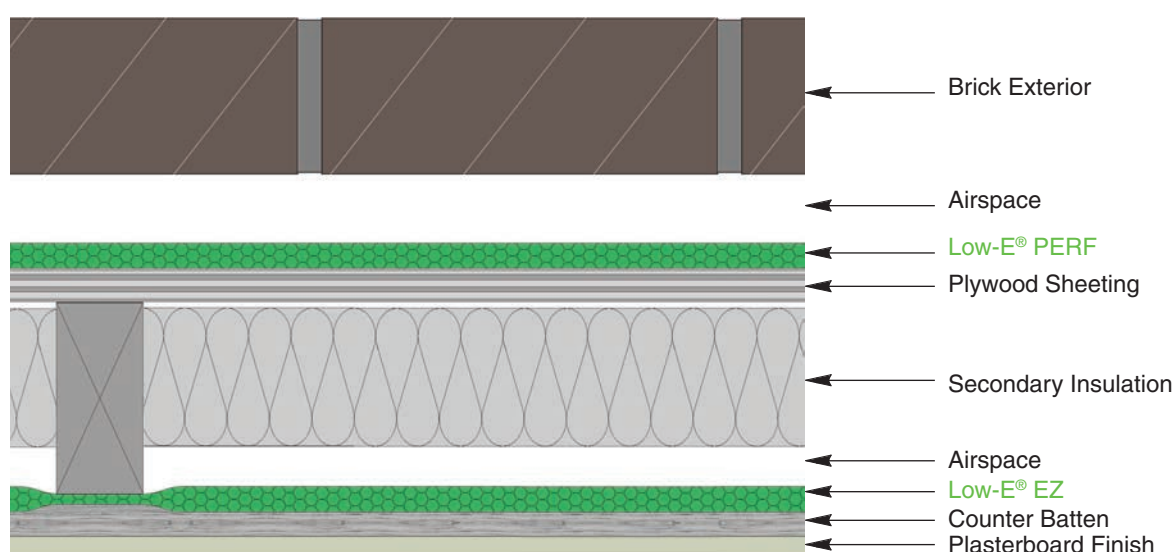
Ensure you leave enough material to wrap around openings and junctions to stop any air ingress

Once you have finished, inspect the finished work to ensure it has been installed as airtight as possible.



Timber Frame - Internal and External (Partial Fill)

With Low-E® PERF installed on the exterior side of the frame as a breather membrane and Low-E® EZ installed internally as a vapour control layer and airtight membrane, the amount of secondary insulation required is greatly reduced. This system creates the most efficient timber frame possible and reduces life-cycle running costs of any building.



15% TB - Studs, Noggins, Windows and Doors

Phenolic Foam (λ 0.020)	U- Value W/m ² K
30 mm	0.25
50 mm	0.21
75 mm	0.18

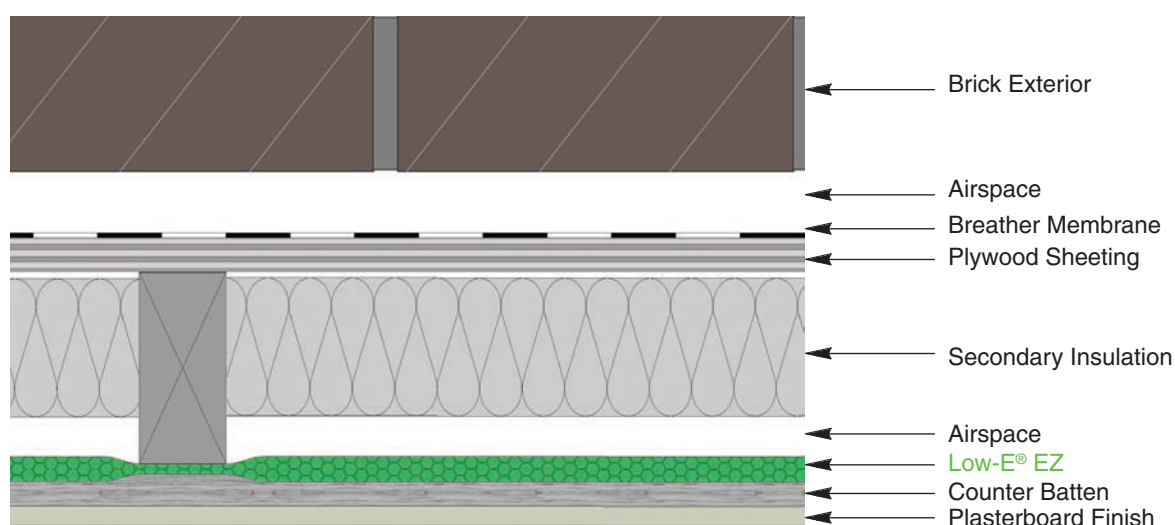
Mineral Fibre (λ 0.032)	U- Value W/m ² K
50 mm	0.24
70 mm	0.21
100 mm	0.18

PIR (λ 0.022)	U- Value W/m ² K
30 mm	0.25
55 mm	0.21
70 mm	0.19

Mineral Fibre (λ 0.038)	U- Value W/m ² K
50 mm	0.25
70 mm	0.22
100 mm	0.19

Timber Frame - Internal (Partial Fill)

In this example, Low-E® EZ is installed on the face of the timber frame with a partial fill of insulation in the timber frame. This system increases thermal performance, reduces draughting and provides moisture protection, all of which can be problematic in timber frame construction. The counter battening on the face of the frame creates a service void ensuring Low-E® EZ (the vapour barrier) is not perforated.



15% TB - Studs, Noggins, Windows and Doors

Phenolic Foam (λ 0.020)	U- Value W/m ² K
50 mm	0.25
75 mm	0.21
100 mm	0.18
150 mm	0.14

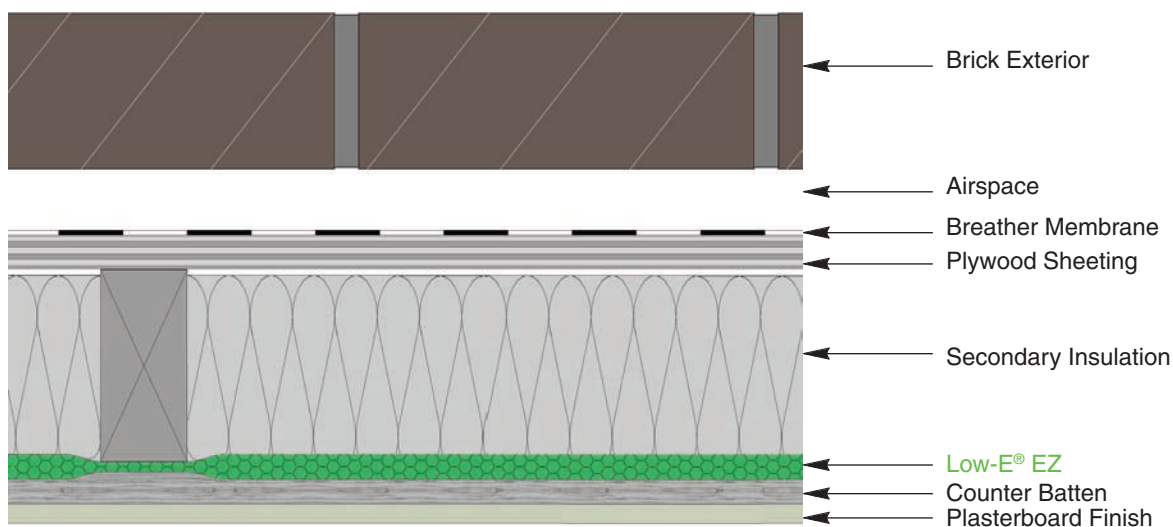
Mineral Fibre (λ 0.032)	U- Value W/m ² K
70 mm	0.26
95 mm	0.22
115 mm	0.20
150 mm	0.17

PIR (λ 0.022)	U- Value W/m ² K
50 mm	0.26
70 mm	0.22
95 mm	0.19
140 mm	0.15

Mineral Fibre (λ 0.038)	U- Value W/m ² K
70 mm	0.27
100 mm	0.23
120 mm	0.21
145 mm	0.19

Timber Frame - Internal (Full Fill)

Low-E® can also, be installed on a timber frame with a full fill of insulation. A full fill of insulation is usual if a Blown or Natural Fibre insulation (sheeps wool etc) is used in the timber frame. In this example, Low-E® EZ is used to increase thermal performance, provide air tightness and moisture protection.



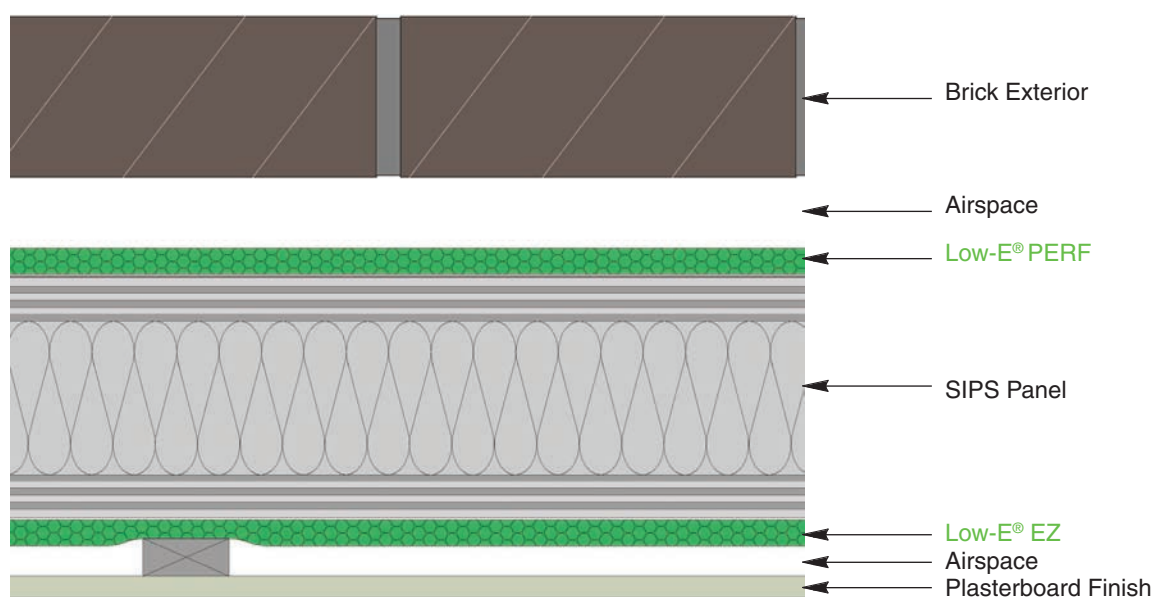
15% TB - Studs, Noggins, Windows and Doors

Mineral Fibre (λ 0.032)	U- Value W/m ² K
90 mm	0.28
115 mm	0.24
135 mm	0.21
165 mm	0.19

Mineral Fibre (λ 0.038)	U- Value W/m ² K
90 mm	0.30
115 mm	0.26
140 mm	0.23
160 mm	0.21

Timber Frame - Internal (Partial Fill)

SIPS panels are usually installed with airtight membranes internally and breather membranes externally. Installing Low-E® EZ and Low-E® PERF in place of these membranes does not add any labour steps to the build, but will increase the thermal performance of these already highly efficient systems and reduce the buildings life-cycle running costs.



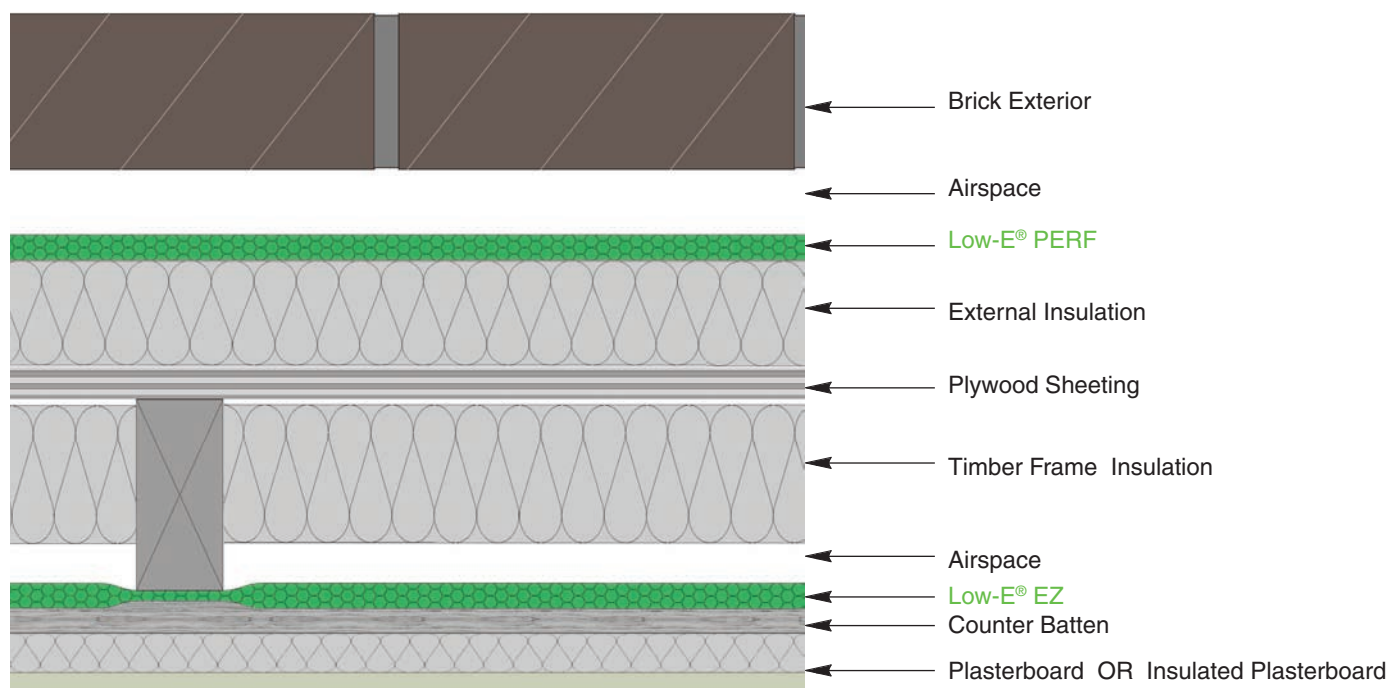
15% TB - Studs, Noggins, Windows and Doors

Panel Thickness	Insulation PIR (λ 0.022)	Without Low-E - W/m ² K	With Low-E - W/m ² K
100 mm	76 mm	0.37	0.22
125 mm	101 mm	0.29	0.19
150 mm	126 mm	0.25	0.16
175 mm	151 mm	0.22	0.15

Timber Frame - Internal and External (Partial Fill)

To meet extremely low U-values or 'Passive House' standards, specially designed timber frames incorporating Low-E® Insulation can be constructed to reduce thermal bridging and create the most efficient buildings. These can be constructed on or off-site making them extremely versatile.

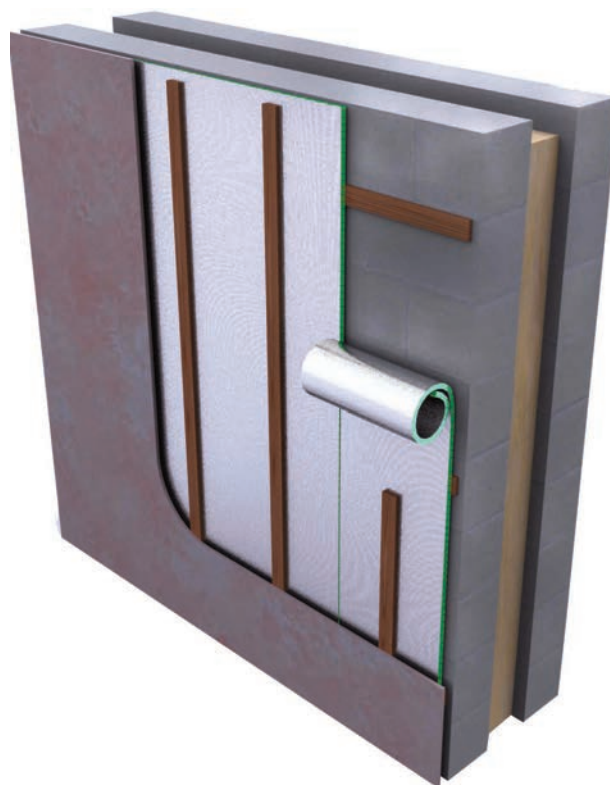
In this example a rigid foam is installed between the studs with a second layer (unbridged) installed on the exterior side of the timber frame, faced with Low-E® PERF. Low-E® EZ is then installed on the interior face of the frame, before counter battening. Another option is to use an insulated plasterboard. This creates a second unbridged layer of insulation. This will also reduce the amount of insulation required between the studs.



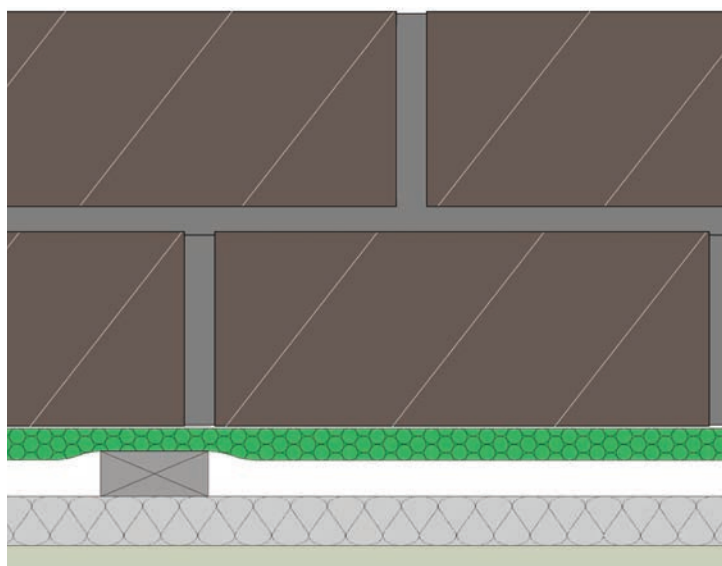
15% TB - Studs, Noggins, Windows and Doors

External Insulation	Timber Frame Insulation	Insulated Plasterboard	U- Value W/m² K
40 mm (λ 0.022)	80 mm (λ 0.022)	NONE	0.13
40 mm (λ 0.022)	100 mm (λ 0.020)	NONE	0.12
40 mm (λ 0.022)	150 mm (λ 0.020)	NONE	0.10
40 mm (λ 0.022)	70 mm (λ 0.022)	20 mm (λ 0.022)	0.12
40 mm (λ 0.022)	95 mm (λ 0.020)	20 mm (λ 0.022)	0.11
40 mm (λ 0.022)	120 mm (λ 0.020)	20 mm (λ 0.022)	0.10

Low-E® Insulation can be installed on masonry walls to reduce occupied space and increase thermal performance. A single batten or double batten system can be used. However, if an airspace is omitted from any of the examples in this guide, the overall U-value will be affected.



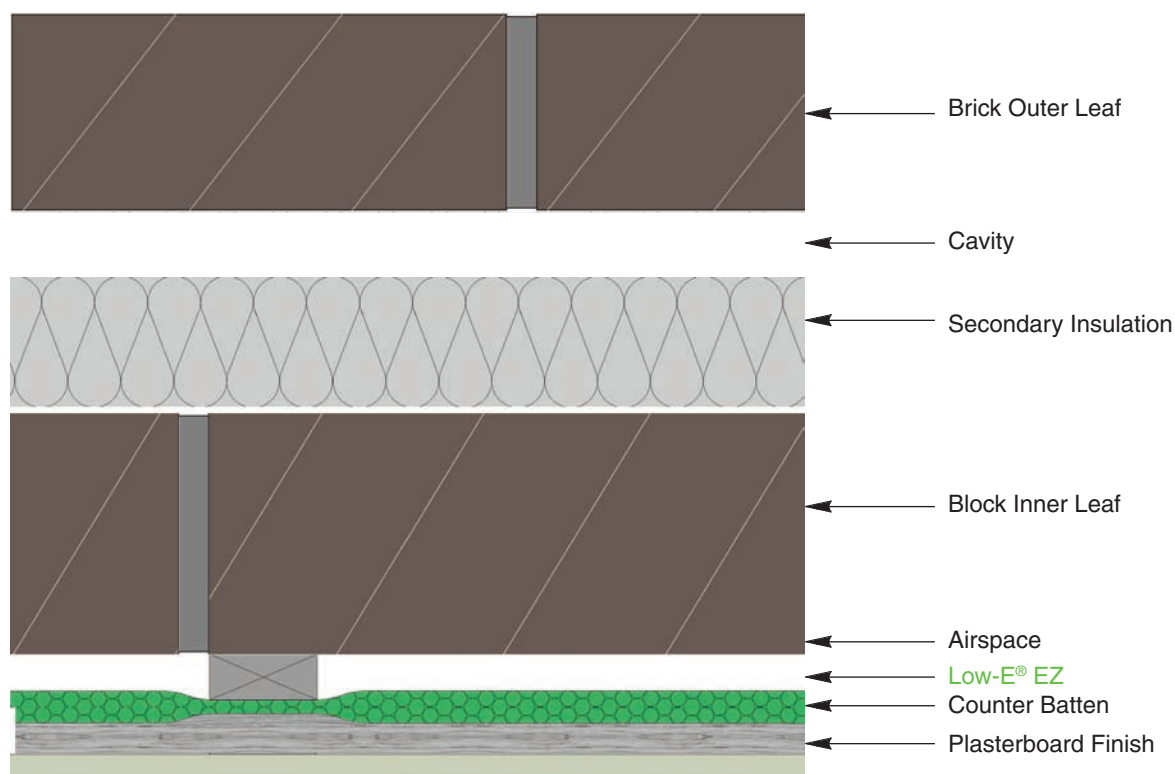
Space Saving



There is always a compromise between occupying space versus achieving a better U-value. **Low-E® Insulation** can be installed directly onto the masonry wall with one airspace. We find it is easier to install **Low-E®** vertically from ceiling to floor in this application. **Low-E®** is very lightweight and can easily be tacked to hold it in place. Secure permanently by installing counter battens over the **Low-E®**. This creates an airspace between **Low-E®** and the finished wall. A plasterboard or insulated plasterboard can be installed for additional performance.

Cavity Wall - New Build

It can be hard to increase the performance of masonry walls while meeting requirements to maintain an open cavity. Installing **Low-E® EZ Seal** with a single or double battening system can give you the increase in performance, without losing considerable internal floor space. In this example, the internal wall has been battened to create an airspace, before **Low-E® EZ** is fitted and counter battened to create a service void before the internal wall is finished.



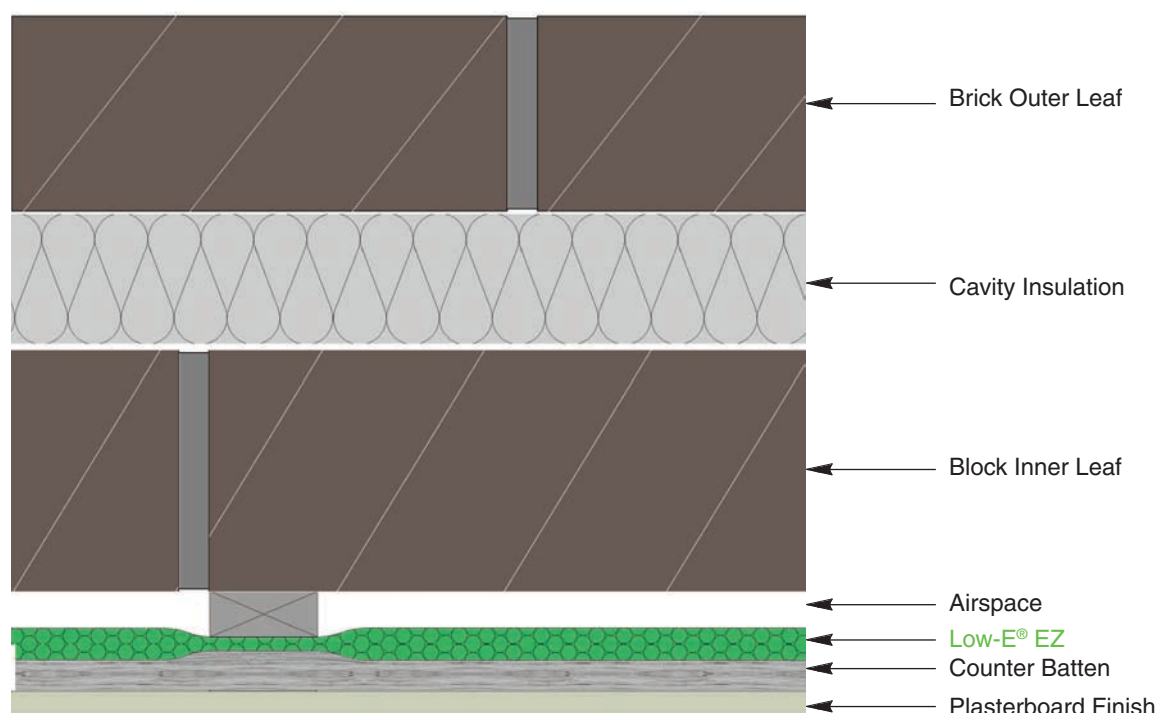
Cavity Wall - Brick/ Block (Partial Fill)

Phenolic Foam (λ 0.020)	U- Value W/m ² K
35 mm	0.25
50 mm	0.22
60 mm	0.20
70 mm	0.18

PIR (λ 0.022)	U- Value W/m ² K
35 mm	0.30
50 mm	0.26
60 mm	0.23
70 mm	0.20

Cavity Wall - Filled Cavity Upgrade

The majority of older buildings tend to already have had a full fill of cavity insulation installed. However, did you know that even with cavity insulation installed, your building may not meet the minimum requirements for refurbishment? Installing **Low-E® EZ Seal** on the internal walls with a single or double battening system can save you £100's on your energy bills whilst only occupying a minimal amount of floor space. See the examples below and see how much more efficient you can make your building.

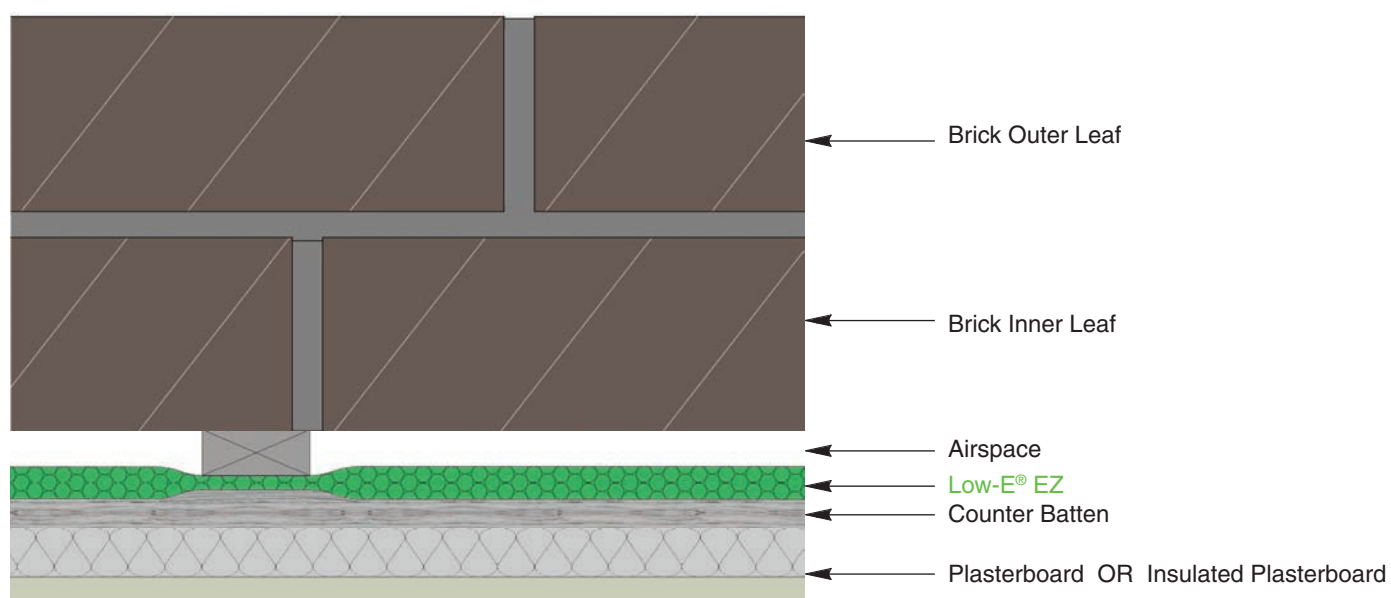


Full Filled Cavity Before and after Low-E® Internal Upgrade

Cavity Thickness	Cavity Insulation	Existing U-value		NEW U- Value
35 mm	Loose Bead (λ 0.027)	0.57 W/m ² K	→	0.30 W/m ² K
50 mm	Loose Bead (λ 0.027)	0.45 W/m ² K	→	0.25 W/m ² K
100 mm	Loose Bead (λ 0.027)	0.25 W/m ² K	→	0.18 W/m ² K
50 mm	Mineral Fibre (λ 0.038)	0.57 W/m ² K	→	0.29 W/m ² K
75 mm	Mineral Fibre (λ 0.038)	0.41 W/m ² K	→	0.25 W/m ² K
100 mm	Mineral Fibre (λ 0.038)	0.34 W/m ² K	→	0.21 W/m ² K

Solid Wall - Upgrade (Insulated Plasterboard)

Solid walls can be constructed of stone, brick or block. They can be difficult to upgrade and often a compromise is made between occupied floor space and efficiency achieved. Using **Low-E® EZ Seal** with a insulated plasterboard can be the most efficient way of insulating a solid wall. This example occupies a minimum amount of space, gives the best performance values and keeps all of the insulation as close to the heat source as possible. This ensures the structure of the building doesn't have to be heated before the insulation can be effective.



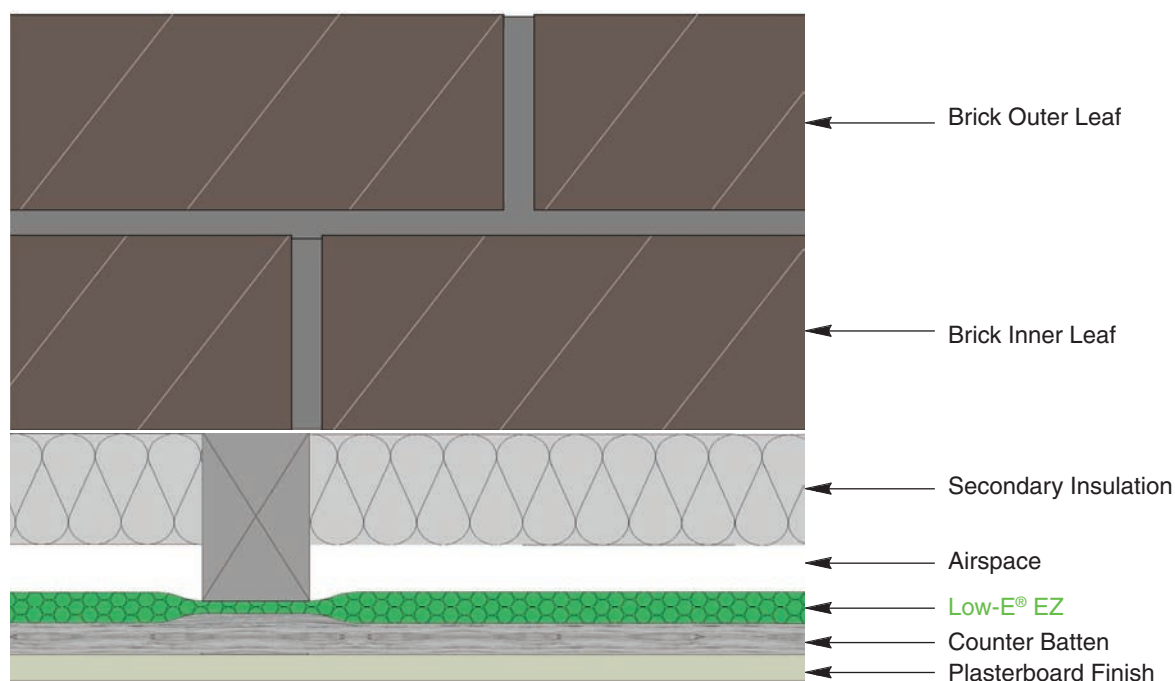
Existing Solid Wall

U-value **2.10 W/m² K**

System Depth	Insulated Plasterboard	U-value W/m² K
50 mm	None	0.47
70 mm	20 mm (λ 0.022)	0.33
80 mm	30 mm (λ 0.022)	0.28
100 mm	40 mm (λ 0.022)	0.25

Solid Wall - Upgrade (Battened Wall)

An alternative way of insulating a solid wall with Low-E® EZ Seal is to batten the wall with large timbers. Rigid insulation or Mineral Fibre can then be installed between the timbers before Low-E® EZ Seal is fitted and counter battened to create a service void



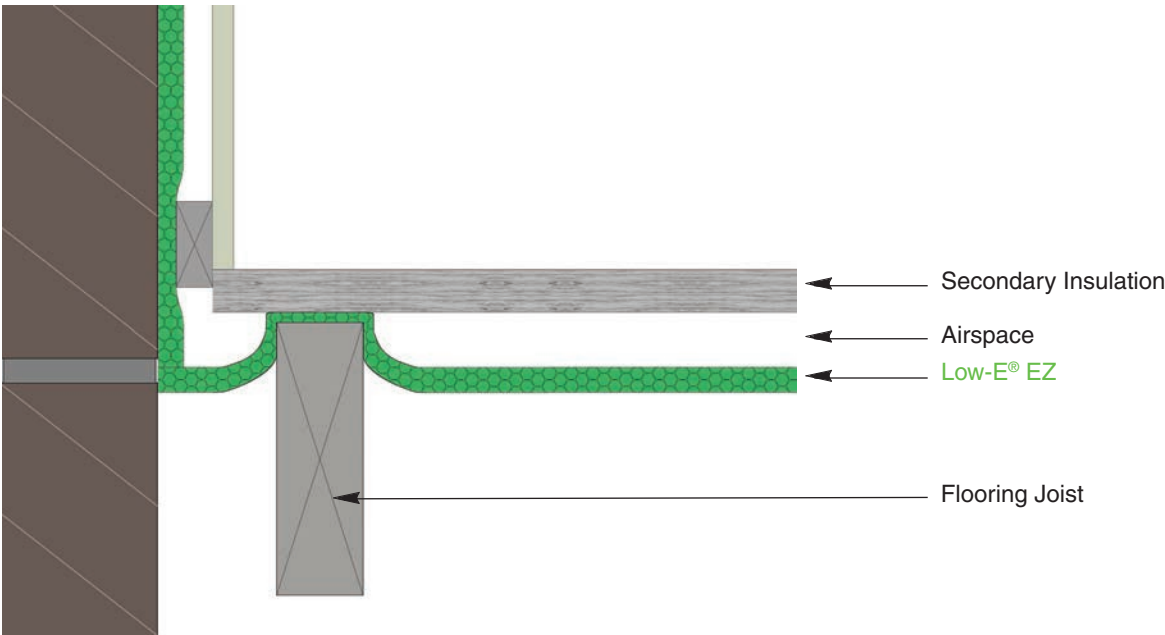
Existing Solid Wall

U-value **2.10 W/m² K**

Batten Depth	Insulation	U-value W/m² K
50 mm	25 mm (λ 0.027)	0.34
75 mm	50 mm (λ 0.027)	0.27
100 mm	75 mm (λ 0.027)	0.22

Suspended Floors

Low-E® can be used to upgrade existing ground floors or suspended floors where there is no insulation in place. In this example, Low-E® is installed over the top of the joists and has been allowed to sag between the joists to create an airspace. Installing Low-E in this application can stop draughts coming up through the floor and create a warmer room, while allowing ventilation to be maintained below the floor. This application can be also be used with suspended radiant heating systems.

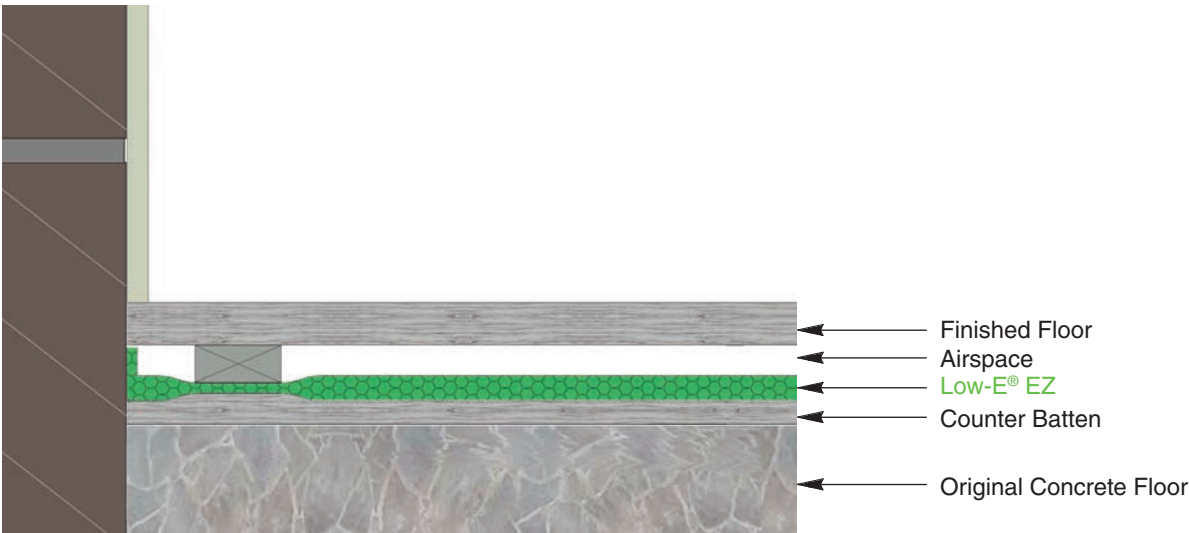


Existing Floor with No Insulation

Existing U- Value	Low-E Insulation	U- Value
0.68 W/m² K	Ventilated Below Joist	0.25 W/m² K

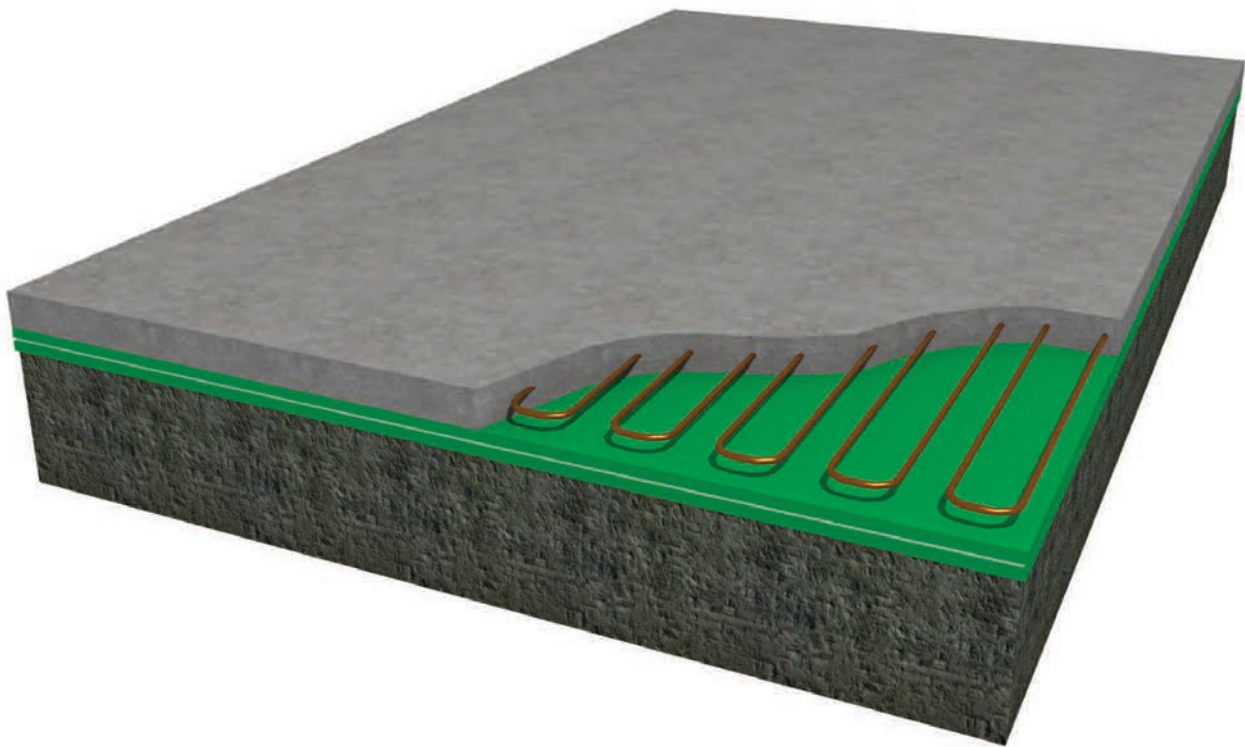
Ground Floors

Solid floors with no insulation can be very cold and difficult to upgrade. Using Low-E® on top of solid concrete floors can be a very effective way of upgrading a floor without losing much head height in the room. In this example, we have shown the values that can be achieved using either a single or double battening system.



Existing Floor with No Insulation

Existing U- Value	Batten Floor	U- Value
0.68 W/m² K	Single Batten	0.27 W/m² K
0.68 W/m² K	Double Batten	0.19 W/m² K



Slab Shield

Low-E® SlabShield is a new product, specially designed for use with radiant heating systems. Slab Shield has an aluminium core with two layers of our closed cell foam as facing materials. The core reflects radiant heat while the closed cell foam protects the aluminium from coming into contact with the uncured concrete.. The double layer of closed cell foam also provides an effective thermal break between the warm slab and the cold subfloor.



Standard speed fixings can be used when installing Low-E® in steel framing. Low-E® has been shown to reduce energy consumption and even reduce lighting bills by up to 20%.

Ice Rinks

As you would guess from its name, Low-E® is ideal when designing low emissivity ice rink ceilings. Our closed cell foam reduces the chance of condensation and presents no chance of moisture absorption. Low-E® will be your first and last choice for compliance with these specialist ceiling requirements.



Distribution Centres

Low-E® is used on large distribution centres where it increases thermal performance and also reduces lighting cost by reflecting light around the building. Low-E® is an extremely effective addition to any building design in order to reduce life-cycle running costs.

Agricultural Buildings

Used in agricultural buildings, Low-E® is the perfect, easy-to-fit product to complete outhouses and storage buildings.



Steel Framing

Used internally on large framing walls, Low-E® stops heat transfer between rooms where separate climate controls are required.

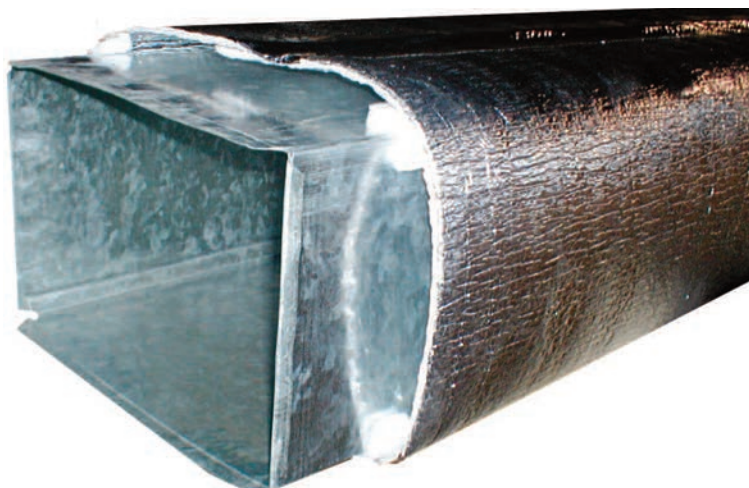


Suspended Ceilings

Low-E® can be cut into squares and fixed to the back of ceiling tiles. Alternatively our Low-E® TAB (400mm or 600mm wide) can be unrolled and pulled along a full length of ceiling. Installing Low-E® above suspended ceilings has shown energy savings of between 10-25%.

Duct Wrap

Low-E® can be used as a pipe wrap and duct wrap. By using foam spacers to create an airspace between the ducting and the Low-E® you can increase the efficiency of your HVAC system.



Park Homes

Low-E® stops draughting and increases thermal performance. Its excellent fire rating and inability to absorb moisture make it ideal for park homes and trailers.



Campervans/ Caravans

Great for keeping vans cool in summer and warm in winter, Low-E® is used extensively throughout the side walls, floor, roof and can even be used to make window mats

Automotive

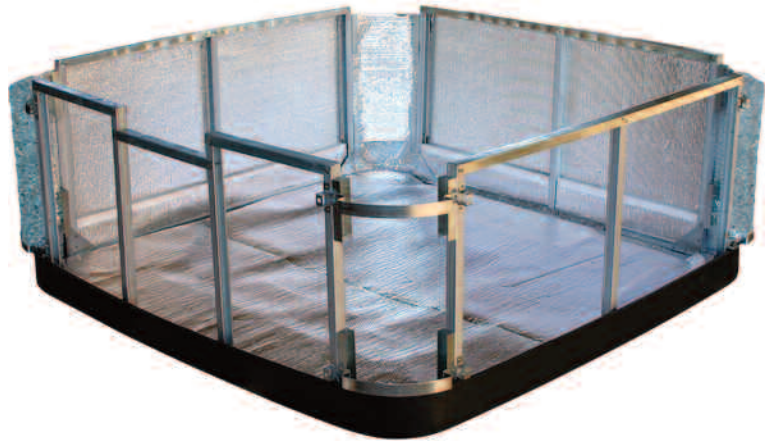
Great for thermal performance and sound deadening, Low-E® can be used to line bulkheads, boots and floors. With no risk of moisture absorption, which can increase the risk of rust, Low-E® will prolong the life of your vehicle.

Low-E® has been used in NASCAR race cars for many years.



Hot Tubs & Jacuzzis

Used to add a reflective barrier to reduce heat loss and running costs, Low-E® has been proven to greatly increase the efficiency of hot tubs, jacuzzis, saunas and steam rooms.



Fridges/ Freezers

Heat transfer works the same in any application, which is why Low-E® works so successfully when used in fridges and freezers.

These specially designed strip curtains, reduce heat transfer into and out of fridges and freezers, greatly reducing energy consumption.

With a payback of less than 18 months, you could save over £200 per year.

Food Storage Bags

Low-E® Insulation can even be used to make food storage bags and can coolers.

You can even make these at home out of waste material that you have left over from your last job.





Sheds & Garages

A quick and cost effective solution, Low-E® can easily be applied to the interior or exterior of your shed or garage to convert them to a warm, dry space. Now you too can have a home office, studio or craft/ hobby room.

Garage Doors

Want to eliminate draughting through your garage door? Low-E® can be fitted by anyone and is a quick and simple way to finish off any garage door.



Tank Wrap

Simple and easy to fit. Using Low-E® Insulation to wrap your hot water cylinder can reduce your water heating costs by up to 15%.

Radiator Shields

Easy to cut to size, Low-E can be used to make radiator shields. Rather than paying to heat the walls of your building, Low-E will reflect heat back into your room, creating a more comfortable living space.



Promotional Posters

Now you can advertise to your customers that you stock Low-E®, the Original Reflective Foil Insulation.



Dump Display/ Point of Sale

Our Low-E® dump display holds 9 x 5m² DIY rolls or 1 x 40m² roll of Low-E® Insulation. This works as a great POS and the DIY rolls are perfect for smaller jobs.

Samples & Literature

With free samples and marketing literature, your customers can learn all they need to know about Low-E® Insulation.



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

Defective Material

The following criteria may be considered a defect; (1.) 25mm wide or more of foil delamination on the edges for more than 4.5m of the roll. (2.) More than 25mm of core showing on 6m 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 core showing on one side, either tape the seam on that side when installed or install product with the core side facing 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 to half to three quarters of the 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® Seam tape.

Returns Policy

1) It is our opinion that our Distributors should handle customer problems directly and Low-E UK Ltd will in turn issue a credit or replace materials to the Distributor. The Distributor must make available 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, we will credit or replace defective material at our 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.

2) All labels on the product must be saved for verification. If label is not sent back with a completed complaint form, the complaint will not be acknowledged. If everything is in order on the complaint form and we request the return of the roll, we will pay the shipping, however, no material is to be returned without prior approval. No credit will be issued for material returned directly.

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

4) If the product is shipped out of the UK, the customer is totally responsible for all replacement costs and shipping charges.



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