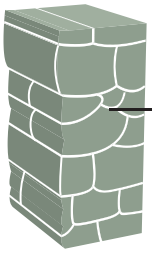
Upgrading old external wall

Recommendations for insulating solid walls normally found in old barns or Victorian type construction. The following illustrations show what can be achieved with ***minimum disruption.*** *These recommendations are the best long term solution with sustainability and cost factors being the main concern.*

Airflex® Superpose® Technology

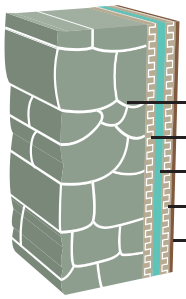
Fitting Instructions



Solid Stone Wall - No insulation — U-value 2.06 w/mK — R-Value 0.48 m2K/W

500mm Stone Wall

It's easy to upgrade your solid stone walls using Airflex® Reflective Thermal Insulation. See how three simple insulation solutions listed below can help you achieve maximum results with minimum disruptions.

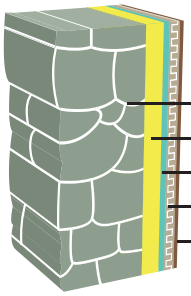


Solid Stone Wall - Insulation Solution 1 — U-Value 0.50 w/mK — R-Value 1.95 m2K/W

500mm Stone Wall
25mm Batten - Air Gap
Airflex®
25mm Batten - Air Gap
Plasterboard

500mm solid stone wall insulated using 25mm air gap either side of Airflex® Reflective Thermal insulation and standard 15mm plasterboard and two timber battens.

Additional thickness internally - 75mm

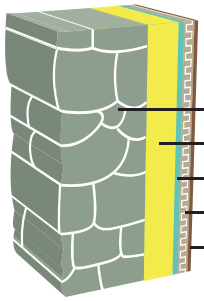


Solid Stone Wall - Insulation Solution 2 — U-Value 0.30 w/mK — R-Value 3.30 m2K/W

500mm Stone Wall
50mm Batten - Insulation
Airflex®
25mm Batten - Air Gap
Plasterboard

500mm solid stone wall insulated using 50mm mineral wool (Kanuf or Isover 32). Between 50mm batten, one 25mm air gap, Airflex® Reflective Thermal Insulation, standard 15mm plasterboard and one 25mm timber batten.

Additional thickness internally - 125mm



Solid Stone Wall - Insulation Solution 3 — U-Value 0.27 w/mK — R-Value 3.74 m2K/W

500mm Stone Wall
65mm Batten - Insulation
Airflex®
25mm Batten - Air Gap
Plasterboard

500mm solid stone wall insulated using 65mm Mineral Wool (Kanuf or Isover 32) between 65mm battens, one 25mm air gap, Airflex® Reflective Thermal Insulation, standard 15mm Plasterboard and one 25mm timber batten.

Additional thickness internally -140mm

Note: U-values are not as important as well fitted insulation. Badly fitted insulation will render U-values of little consequences.

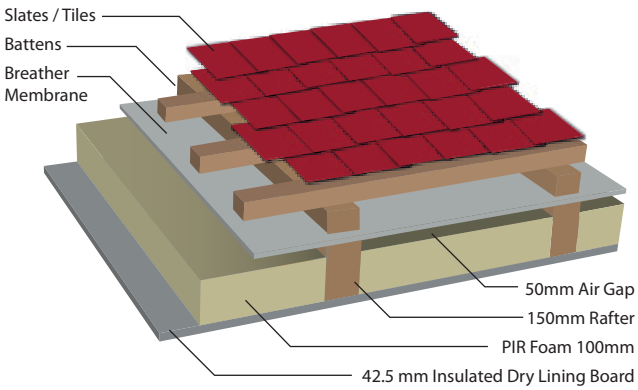
Before you insulate your home understand the True Overall Cost

PITCHED ROOF OR ATTIC CONVERSION SAME THERMAL PERFORMANCE

Fitting Instructions

Polyisocyanurate Foam PIR

150 mm Rafter Depth



Costs of Supplying and fitting PIR Foam (m²)

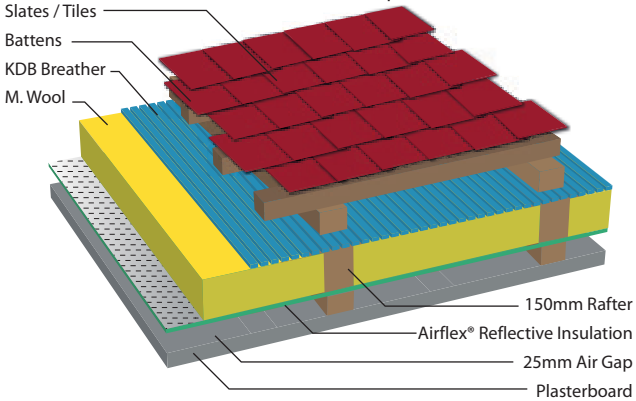
• 100mm PIR between the rafters	€14.46	£13.00
• 42.5mm insulated plasterboard below the rafters	€8.67	£7.37
• Fitting PIR insulation between the rafters	€3.50	£2.98
• Fitting 42.5mm insulated board underside of rafters	€ 4.10	£3.49
• Cost of waste material 10%	€1.30	£1.08
• Vapour control layer	€1.00	£0.85
• Applying expanded urethane sealant to joints	€2.00	£1.70
Total Cost	**€35.31**	**£30.47**

Material and labour cost may vary in different areas labour cost have been advised by J.M.C Insulation Ltd.

Fitting Instructions

AIRFLEX® and Isover 35 or Isover Metac 34

150 Mm Rafter Depth



Costs of Supplying and fitting AIRFLEX® and MW (m²)

• 150mm Isover35 between the rafters	€8.11	£6.90
• AIRFLEX® Insulation to underside of the rafters	€8.50	£7.22
• Fitting 150mm Isover 35 Glass Wool	€2.00	£1.70
• Fitting AIRFLEX® Insulation to underside of rafters	€1.00	£0.85
• Waste material 0%	€0.00	£0.00
• 12.5mm Plasterboard	€1.56	£1.32
• Vapour Control Layer (AIRFLEX®)	€0.00	£0.00
Total Cost	**€21.17**	**£17.99**

Total Saving **36%**

True Cost of Insulation

The best and most cost effective method of insulating is a Hybrid Combination using Mineral Wool and Reflective Radiant Insulation.

By combining these two materials you are guaranteed to take care of Conduction, Convection and Radiation.

This is beneficial in a number of ways:

a) Thermal performance
b) Cost of material
c) Labour time
d) No waste
e) Airtightness.

Mineral Wool will fit tightly between Studs / Joists - no need for expanding urethane foam - no real waste of material. AIRFLEX® with Superpose sealed edges, fitted on the warm side of Wall/Roof will insure airtightness therefore preventing heat loss that occurs through badly fitted rigid boards. No waste of material.

AIRFLEX® is also a vapour control barrier. A vapour control must always be installed on the warm side of a Stud / Rafter to prevent condensation occurring. This is another add on cost when using rigid boards.

Changes are occurring in the way buildings are being insulated. Airtightness can increase the thermal performance of a building by 20-30%, as verified in a number of reports, therefore confirming that the Hybrid System such as mineral wool and AIRFLEX® is the best solution.

Tel: 028 3884 9042 Fax: 028 3884 9209 Email: contact.uk@kdb-isolation.com

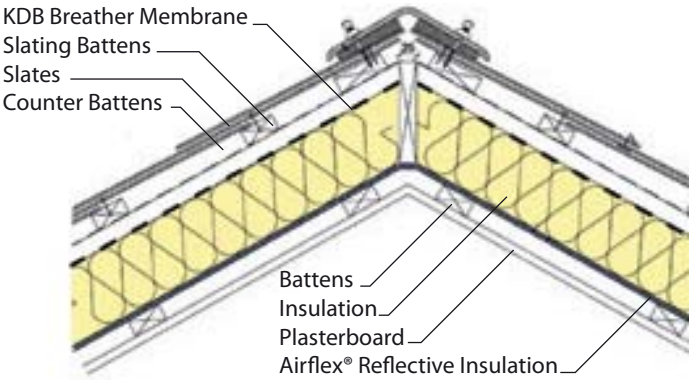
Applications

Airflex® Superpose® Technology

Fitting Instructions

Below Rafter Application U-Value 0.18

Meets All Building Regulations



A. 150mm Rafter Full Fill
Airflex® + 150mm Mineral Wool 0.034 M/mK
U-Value 0.20

B. 175mm Rafter
Airflex® + 150mm Glass Wool 0.034 W/mk + 2 Air Spaces
U-Value 0.18

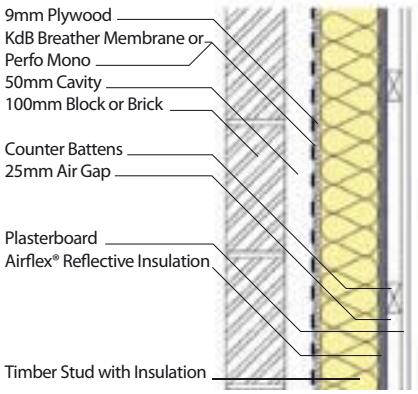
C. 225mm Rafter
Airflex® + 200mm Glass Wool 0.034 W/mK + 2 Air Spaces
U-Value 0.16

D. 225mm Rafter
Airflex® +200mm Glass Wool 0.044 W/mK + 1 Air Space
U-Value 0.19

Fitting Instructions

Timber Frame Wall U-Value 0.19

Meets All Building Regulations



A. 140mm Stud Wall Full Fill
Airflex® + 140mm Glass Wool 0.034 W/mK U-Value 0.22

B. 140mm Stud Wall Full Fill
Airflex® + 140mm Glass Wool 0.034 + Perfo Mono
U-Value 0.19

C. 180mm Stud Wall Full Fill
Airflex® + 180mm Glass Wool 0.034 W/mK +
Breather Membrane U-Value 0.19

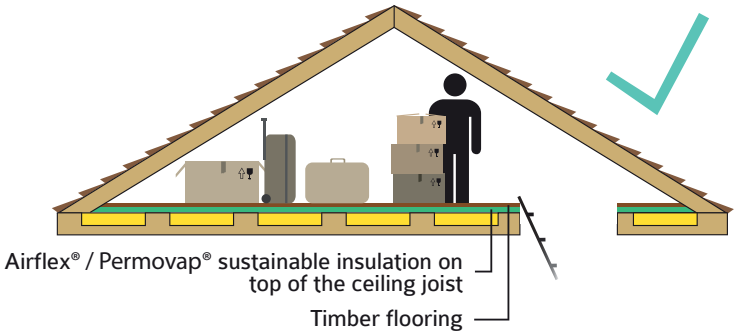
D. 180mm Stud Wall Full FIll
Alflex® + 180mm Glass Wool 0.034 W/mK + Perfo Mono
U-Value 0.17

E. 180mm Stud Wall Full Fill
Airflex® + 180mm Glass Wool 0.034 W/mK + PermoVap
U-Value 0.16

Top Up Insulation combining Airflex® with Mass Insulation

Meets All Building Regulations

By combining mass insulation between the ceiling joists and Airflex® Reflective Insulation on top of ceiling joists, timber flooring can be installed allowing you full access and use of the attic space.



NEW BUILDING REGULATIONS

1m² Airflex® for every 1m² of Mass Insulation used.

Visit **www.kdbinsulation.com** for more info

Reflective Insulation from KDB

THE 3 IN 1 SOLUTION FOR THE BUILDING INDUSTRY

- ***Low thermal conductivity: Reducing energy loss through CONDUCTION***
- ***Airtight layer: Reducing energy loss through CONVECTION***
- ***Low emissivity: Improved thermal performance by blocking RADIATION***

KdB INSULATION

Applications:

Wall

- *Insulating Timber Frame Walls*
- *Upgrading Old Brick Walls*
- *Upgrading Old Stone Walls*

Roof & Attic

- *Below Rafter Application*
- *Top-Up insulation*

Floor

- *Underfloor Heating Application*
- *Below Wooden Floor Application*

By combining Airflex® with mass insulation lower U-Values can be achieved reducing the insulation thickness required.

M1 Classification meets all safety requirements for the home, workspace and public buildings.

Airflex® Reflective Insulation - Available at leading merchants

GREEN DEAL... THINK...

Airflex® Superpose® Technology

NHBC approved · NSAI · EOTA · BBA · LABC

Visit **www.kdbinsulation.com** for more info