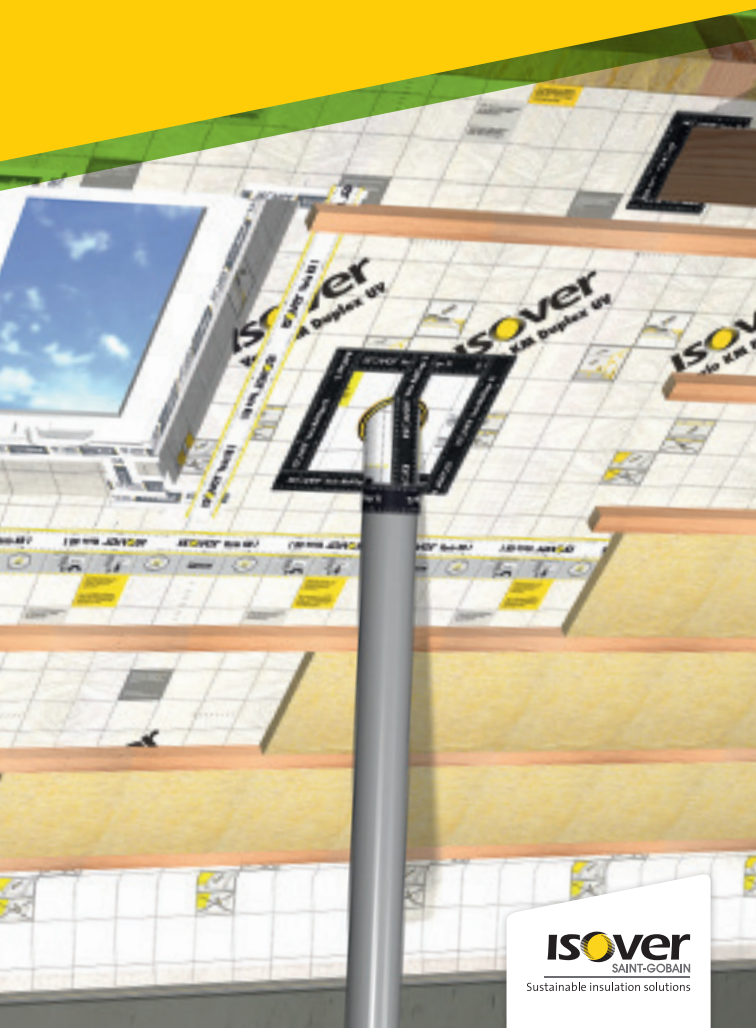
Vario Airtightness & Moisture Control System

The Complete Intelligent System



ISOVER
SAINT-GOBAIN
Sustainable insulation solutions

Introducing
ISOVER SpecHub

SpecHub

The home of free residential and commercial insulation, airtightness & dry lining technical documents

- ✔ Access exclusive ISOVER CAD Drawings
- ✔ Access exclusive ISOVER BIM files
- ✔ Book on-site demonstrations and consultations
- ✔ Track and update your projects, as well as find and keep relevant documentation safe and secure for each project
- ✔ Use our online calculator tools to assess U Values, dB reduction

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Contents

ISOVER SAINT-GOBAIN Sustainable insulation solutions

Airtightness & Moisture Control Vario® System

A range of high performance membranes with accompanying accessories unique in providing excellent levels of airtightness with unparalleled protection against moisture. A well sealed ceiling is a requirement of most agrément certificates for breathable roofing felts, essential to future proof all buildings.

What is Vario®?

Vario® System consists of two intelligent membranes, accessory tapes and a sealant, designed to adapt to the climate and protect your building, inside and out. The system is also designed with an uncompromising commitment to superior airtightness. Vario® System meets and exceeds industry standards, while making a substantial contribution to your BER and reducing the environmental footprint of the building.

The Vario® System

The Vario® system is a high performance system consisting of intelligent membranes and accessory products and provides;

- ✔ Excellent levels of airtightness within the building envelope
- ✔ High levels of diffusion in summer offers protection against moisture by facilitating the drying of the building structure
- ✔ Variable S_d value and can diffuse 25 more times more moisture in summer than the structure absorbs in winter

WHERE TO USE

Residential

Non Residential

Airtightness & Moisture Control

Get hands on with airtightness with the **ISOVER Technical Academy**

Airtightness Skills & Advanced Airtightness Skills Courses

Course Description

The airtightness skills course introduces participants to an overview of airtightness. The advanced airtightness skills course provides more detail on critical applications and details with even more hands on skill learning.

Attendance Requirements

Attendees are expected to have a basic knowledge of construction principles.

PPE Requirements

Attendees should bring safety footwear with them on the day. Footwear can be loaned with prior notice.

www.isover.ie/technical-academy-courses

Technical Academy

You will learn :

- ✔ Fundamental principles of airtightness
- ✔ Airtightness regulation requirements
- ✔ Additional benefits of providing good levels of airtightness in buildings
- ✔ Methods of achieving airtightness
- ✔ Materials used to achieve airtightness
- ✔ Practical demonstrations of applying membranes & tapes
- ✔ Practical demonstrations of critical site detailing issues

SCAN HERE
for more information and details.

isover SAINT-GOBAIN
Sustainable insulation solutions

Membrane Performance Overview

Materials:
Modified fabric-reinforced polyamide faced with a special polypropylene fabric.

Water vapour transmission:
$0.3 \leq s_d \leq 5$ (KM Duplex) $0.3 \leq s_d \leq 20$ (Xtra)

Water Vapour Resistance:
1.5 - 25 MNs/g / 1.5 - 100 MNS/g

Maximum tensile strength:
≤ 110 N/50 mm

Nail tear Resistance:
≤ 50 N (KM Duplex) ≤ 40 N (Xtra)

Temperature range:
- 40°C to + 80°C.

Benefits and Features

✔ **THERMAL**
Creates an airtight barrier to lock out draughts and keep in heat. Excellent thermal performance when used with ISOVER mineral wool insulation

✔ **ACOUSTIC**
Excellent acoustic performance when used with ISOVER mineral wool insulation

✔ **FIRE**
When used with ISOVER Mineral Wool, excellent fire safety - A1 Fire Rated, highest possible rating. Euroclass A1 fire rating when classified in accordance with BS EN 13501-1

✔ **MOISTURE**
Vapour permeable breathable insulation. Improves energy performance and reduces heating & cooling costs

✔ **EASY TO INSTALL**
Simple and easy to install. High levels of diffusion in summer offers protection

Standards and Certification

✔ **QUALITY**
We hold a Quality Management Standard BS EN ISO 9001: 2008 for manufacturing

✔ **CE**
All products are manufactured in accordance with the CE marking requirements under the Construction Products Regulation

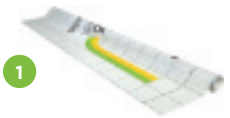
✔ **PRODUCT STANDARDS**
All our products are manufactured in accordance with product standard: BS EN 13162: 2008 and BS EN 13172 Evaluation of Conformity

✔ **ENVIRONMENT**
ISOVER is an ISO 14001:2004 (Environmental Management System) accredited manufacturing facility. This accreditation ensures that all products are manufactured to the stringent standards set out by this management system. EN ISO 13162 EMS 551706 003 BS EN ISO 9001: 2000

✔ **INDOOR AIR QUALITY**
Awarded the highest standard in indoor air quality - Eurofins “Gold Standard” Label. The Gold Certificate means that ISOVER mineral wool is certified as an outstanding material in terms of Indoor Air Quality emissions regulations

✔ **DURABILITY**
Fire Performance Euroclass classification of the product is related to the organic content, which cannot increase with time. Thermal conductivity of mineral wool products do not change with time, experience has shown the fibre structure to be stable and the porosity contains no other gases than atmospheric air. (See std EN13162:2012 Annex ZA,Table ZA.1) Will not accelerate corrosion with steel, copper or aluminium. Will not sustain vermin, nor breed or promote fungi or bacteria

A Quick Guide to the Vario® System



Xtra
The intelligent membrane with even greater variability, to allow for greater building material safety and higher airtightness & moisture control performance.

Product Code : 5200814933

Vario® KM Duplex UV Membrane
The heart of the Vario® System: our patented polyamide membrane acts like a sensitive skin.

Product Code : 5200300299

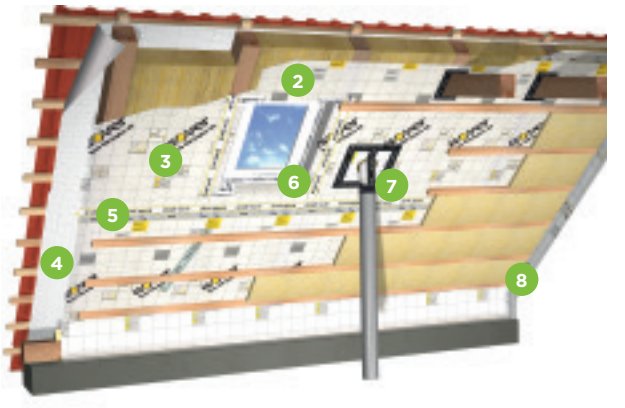
Metac
Metac is a high performance mineral wool roll that acts as a 'batt in a roll'. It has great recovery and rigidity, so can be friction fit between rafters, reducing install time and waste.

Ecran Roofing Felt
ECRAN is an underlying roof membrane – composing of a highly vapour permeable polypropylene (HPV). This vapour barrier provides a quality solution to the problems related to the airtightness and water vapour of a building. Combined with the VARIO KM Duplex membrane, it keeps the humidity rate of the frame at a low level (20%) to avoid condensation.

Product Code : 5200659082

Vario® KB1
Our high adhesion, single-sided tape provides wind and airtight adhesion of Vario® membrane for horizontal and vertical overlapping. It now features water resistant glue and measurements on the tape to make installation easier.

Product Code : 5200300297



Vario® Bond
A high performance airtight plasterable junction tape for windows, doors and timber to block connections.

Product Code : 5200300296

Vario® Multitape SL
A non-aging tape, featuring extremely high adhesion for sealing overlapped membrane joints and – crucially – sealing around any installation gaps. The tape also features water resistant glue.

Product Code : 5200300298

Vario® DoubleFit
The Vario® universal sealant. A 2-in-1 solution for creating airtight joins between vapour membrane and adjacent surfaces.

Product Code : 5200300297

Airtightness Regulations

Republic of Ireland

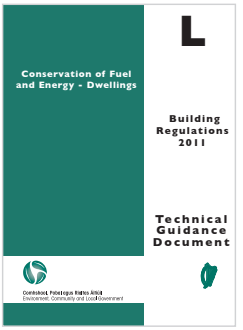
The airtightness of a dwelling, or its air permeability, is expressed in terms of air leakage in cubic meters per hour per square metre of the dwelling envelope area when the building is subjected to a differential pressure of fifty Pascals (m^3 /($h.m^2$)@50Pa).

Building Regulations 2011 TGD L Dwellings indicates that reasonable provision for airtightness is to achieve a pressure test result of no worse than 7m^3/($h.m^2$)@50Pa. Current good practice for energy efficient dwellings includes achieving airtightness of better than 5m^3/($h.m^2$)@50Pa and best practice is less than 3m^3/($h.m^2$)@50Pa. The airtightness appropriate for a particular dwelling design will depend upon the Building Energy Rating the builder is aiming to achieve. Care should be taken to ensure compliance with the ventilation requirements and permanent air supply of Part F and of Part J of the Building Regulations respectively.

Northern Ireland

The DFPNI Technical Booklet F1 for new dwellings will require, type-testing of all new dwellings to an airtightness standard of no greater than 10m^3 / ($h.m^2$) at 50 Pa. For some dwellings where the carbon emission rate is difficult to meet, the airtightness target may also need to be reduced to 7, 5 or 3m^3/ ($h.m^2$) at 50Pa to meet the overall carbon emission rate required by the Regulations.

The DFPNI Technical Booklet F2 for work in buildings other than dwellings requires all commercial and industrial buildings with a gross floor area greater than 500m^2 to be tested for air permeability to a minimum standard of 10m^3/ ($h.m^2$) at 50Pa.



Where should you use Vario®?

In an era of high fuel bills and concern about energy efficiency, a quality insulation and airtightness system is more important than ever. Superior insulation is the ideal solution – because it's a sustainable, effective and an economical investment for everybody's wellbeing. It will help you save on bills and protect the planet too.

In reality, heat lost through the fabric of a building can be substantial, resulting in higher fuel consumption in order to maintain comfortable room temperatures, and substantial energy wastage. Vario®, together with mineral wool insulation, lets you choose whether to make your building an energy liability or an energy asset. Choosing Vario® allows you to avoid energy loss and create a sustainable, comfortable home. So whether you are planning to go with a timber frame, masonry or steel frame construction for a new building or dwelling, select Vario®: the leading, complete high performance intelligent airtightness & moisture control system.

The Vario® system can be used in a diverse range of constructions:

Timber Frame Buildings

On roofs, walls, windows and doors, sealing up any openings or penetrations in the building envelope where heat might be lost.

Masonry Buildings

On roofs, windows, doors and also to seal up any opening or penetrations in the building (such as vents for tumble dryers) where heat can be lost.

Steel Frame Buildings

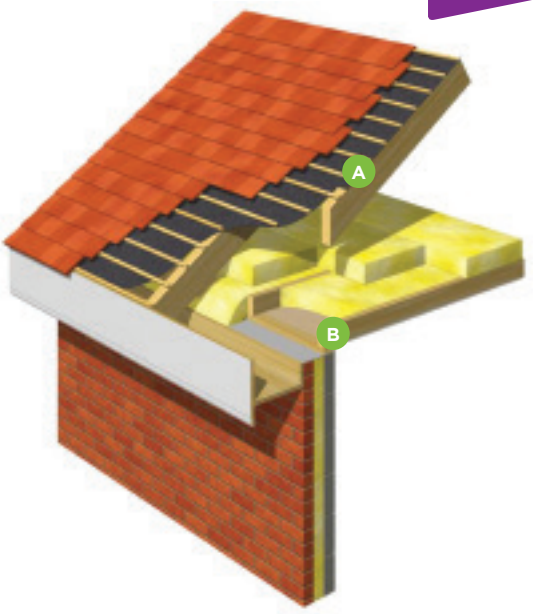
In steel frame structures such as commercial and retail buildings, Vario® can be used in the same applications as on timber frame structures, except tapes are used instead of staples.

Areas of Heat Loss in Homes

Source: SEAI

ROOFS - Timber Frame, Masonry and Steel Buildings

No matter what type of structure or material forms the frame of your building, your roof can be fitted with Vario®. Vario® is also an essential tool in fixing any penetration or opening in the roof of your building structure. The flexibility of the Vario® system allows you to achieve airtightness and heat protection by sealing all penetrations and thus the building envelope.



A Inhabited roof structures – Vario® is stapled to the rafters of the sloping roof on the inside.

B Uninhabited roof structures – Vario® is stapled to the underside of the joists and sealed to the wall on the inside.

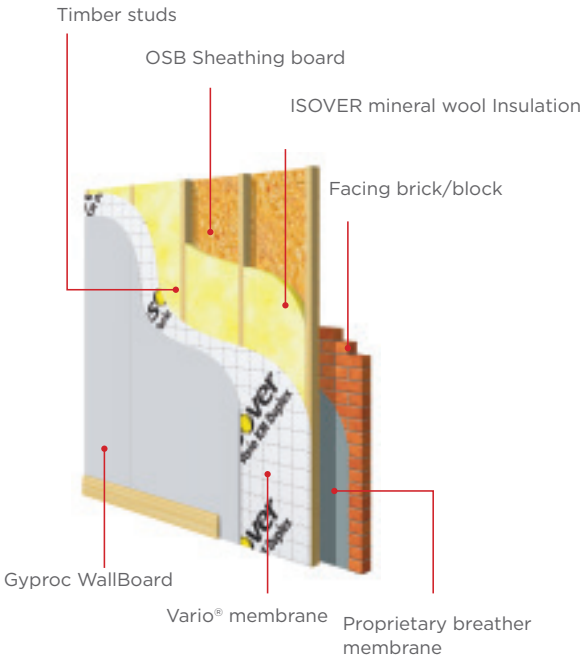
WALLS - Timber Frame Buildings

Vario® offers specifiers of timber frame housing a complete solution. Vario® is the world's most advanced solution for the management of interstitial moisture in timber framed construction. Vario® technology is proven, having been extensively tested and specified in high volume timber frame construction in the exacting standards and climates of Northern Europe and Scandinavia.

Specifiers dealing with timber framed buildings start with an advantage in that the Vario® membrane is also an effective air barrier - providing exceptional airtightness for the building envelope.

Another unique quality of Vario® is its ability to protect the inside of the building and its occupants against toxic gases, which may emanate from chemical preservatives contained within the timber structure. This is particularly important when converting the attics of older buildings into living space, as the type and toxicity of any preservatives can be unknown and therefore potentially hazardous.

The Vario® system of membranes and tapes is used to wrap and seal the outer walls (by stapling to the studs), windows, doors and all penetrations of the building envelope.



WALLS - Timber Frame Buildings

The Vario® system is also the optimum solution for masonry construction. Selecting Vario® as your membrane of choice provides exceptional airtightness of the building envelope when applied to the sealing of windows and doors, timber roof structures, and the sealing of separating timber floors to block walls and of all penetrations throughout the masonry building envelope.

The Vario® membrane is stapled to the underside of joists below the attic and then sealed to walls. Where separating timber floors join outer block walls, Vario® tapes are used to seal potential leaks.

The Vario® membrane is sealed to masonry walls at ceiling level. Vario® tape (in the above images, Vario® Bond) is used to seal the point where timber separating floors penetrate the outer blockwork and where windows meet blockwork.

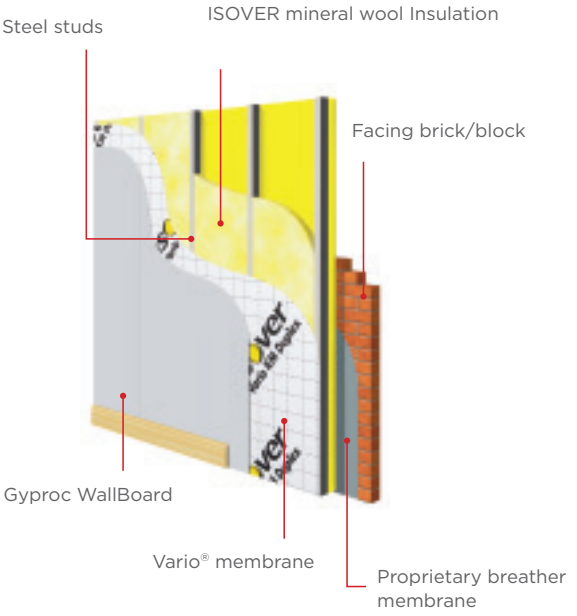
Penetrations and Openings

One of the most common ways to compromise your building's overall airtightness and heat retention is to fail to address penetrations. This can be easily remedied with the Vario® System.

WALLS - Steel Frame Buildings

In structures such as commercial and retail buildings, Vario® can be used in much the same way as on timber frame structures: sealing the outer walls on the warm side, windows, doors and all penetrations of the building envelope.

The flexibility of the Vario® system allows you to achieve the highest standards of airtightness and heat retention in any size commercial and retail building.



Vario® membranes and mineral wool insulation

When it comes to specifying an insulation and airtight solution for your building, you need a superior system you can rely on: high performance products that are efficient, economical and energy saving. If you want an optimum solution, there are several qualities you need to look for: airtightness, thermal efficiency, acoustic comfort, fire protection, moisture control, cost effectiveness and, not least, ease of use. The Vario® system, along with ISOVER mineral wool solutions, delivers on every requirement, with airtightness and overall performance that is second to none.

Airtight Solution
If you want to achieve a good energy rating in any building, it must have airtightness. ISOVER lead the way in innovative solutions for superior airtightness performance.

Thermal Efficiency
ISOVER products help you meet and exceed building regulations with superior thermal efficiency: installing our insulation can reduce overall heating costs by up to 60%.

Acoustic Comfort
Our mineral wool offers outstanding acoustic performance, adding real comfort and quality of life through superior noise reduction.

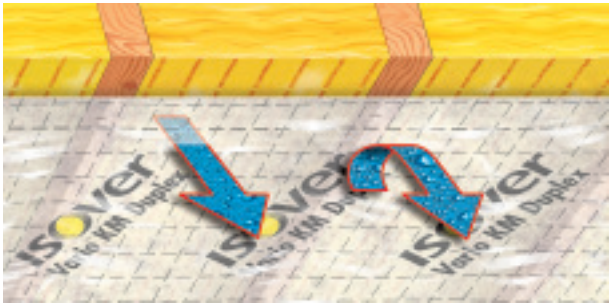
On-site Fitability
Our products handle brilliantly and feature superior cost effectiveness, ease-of-installation and little waste.

Moisture Control
Vario® is a moisture control membrane and mineral wool has an open structure, so both allow buildings breathe naturally, and new constructions dry out easily.

Sustainable Product
Mineral wool is a highly sustainable product: it is based on silica sand, the world's most abundant natural material, and features over 80% recycled glass.

How does the Vario® membrane work?

As buildings are insulated to higher standards, stricter moisture management is essential. Our Vario® membranes most unique quality is its ability to change its water vapour performance. Each Vario® membrane adapts and reacts according to humidity conditions, changing its permeability and allowing closed building systems to increase their drying potential. This means Vario® is truly multifunctional: acting as a barrier in winter and a breathable membrane in summer.



IN SUMMER

As the structure warms in summer, the membrane's micropores open, allowing vapour to escape into the building interior.

IN WINTER

In winter, the membrane prevents vapour from the warm interior diffusing into the timber structure.

Why Choose ISOVER G3 Touch Mineral Wool?

Healthy Indoor Environment	=	Eurofins Air Comfort Gold Award
Soft Touch	=	Gentle to Install
Excellent Recovery & Strength	=	No Slumping and High Tear Strength
Natural Materials	=	Made from Recycled Materials, No Odour
Low Dust	=	Pleasant Installation
A1 Fire Rating	=	Highest Rating for Insulation Materials
Cost Effective	=	No Wastage, Installed in Less Time
Simple to Use	=	User Friendly Rolls for Easy Installation at Home

Sustainable Insulation Solutions

LOSING HEAT THROUGH YOUR WALLS?
The best solution is the Optima Drylining System. Watch our “OPTIMA” movie to find out more!

LOCK IN HEAT, LOCK OUT DRAUGHTS WITH VARIO RANGE!
Learn more about our airtight and moisture control solution on **isover.ie**

LOOKING TO INSULATE YOUR ATTIC?
View our “How to Insulate” movie and step by step guide!

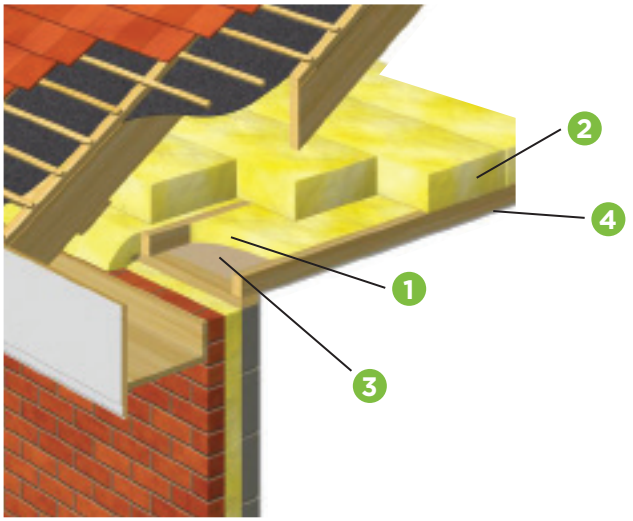
CONVERTING YOUR ATTIC?
Check out the “Metac” movie!

NEED HELP? DO YOU HAVE A QUESTION?
Contact our technical team:
ROI: 1800 744 480
NI: 0845 399 0159
tech.ie@saint-gobain.com

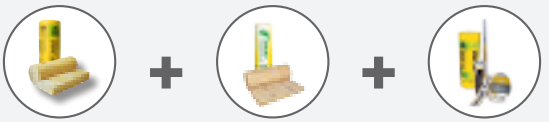
Attics

Insulation Between & Over Joists

1. ISOVER insulation between joists
2. Second layer of ISOVER insulation cross laid over joists
3. Vario® membrane + tapes
4. Gyproc WallBoard



ISOVER PRODUCTS



Spacesaver Roll + Heatshield + Vario® System

More CAD details and application variants are available to download by registering and logging into **www.isover.ie/spechub**

Please contact us for more information on this and other applications:

Free Phone (ROI): 1800 744480
Free Phone (NI): 0845 3990159
Email: tech.ie@saint-gobain.com

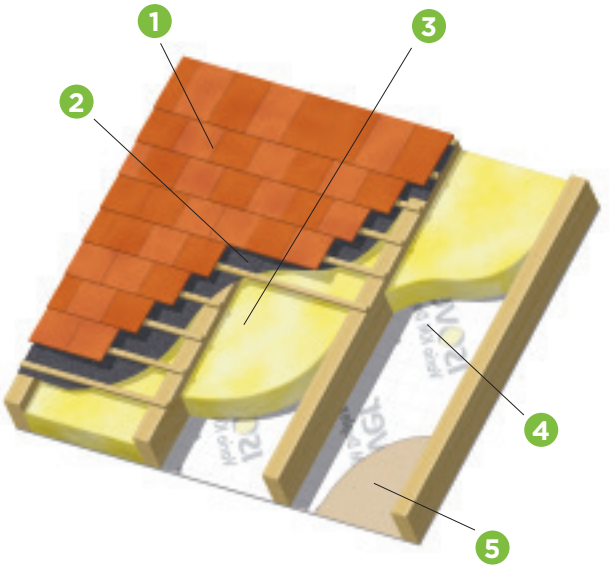
*ISOVER recommends for better performance. For more info, See the BUILDING REGULATIONS section of this guide.

Insulation 1st layer	Insulation 2nd layer	Airtightness/ Moisture Control	Board Lining	U-value W/m²K
100mm Spacesaver	140mm Heatshield	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.16
150mm Spacesaver	150mm Spacesaver	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.15
150mm Spacesaver	200mm Spacesaver	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.13
200mm Spacesaver*	200mm Spacesaver	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.11

Pitched Roofs

Insulation between rafters

1. Tiled or slated roof on tiling battens
2. Low resistance underlay
3. ISOVER insulation installed between rafters
4. Vario® membrane + tapes
5. 12.5mm Gyproc WallBoard



ISOVER PRODUCTS

Metac Roll

+

Vario® System

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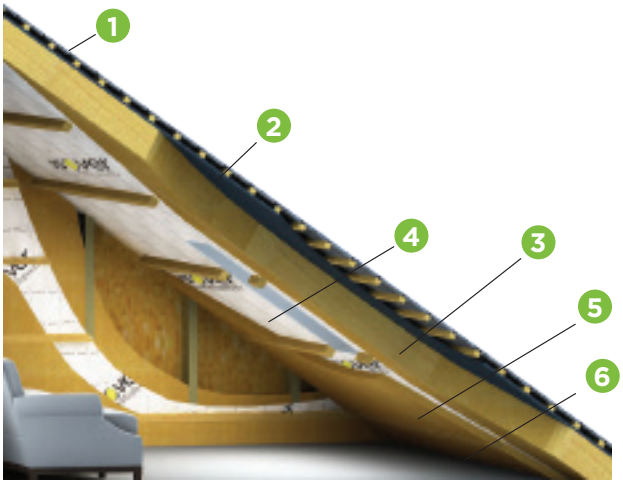
Insulation	Airtightness/Moisture Control	Board Lining	U-value W/m²K
180mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.22
220mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.17
300mm Metac*	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.13

Pitched Roofs
Counter Batten

Insulation between rafters + counter battens

1. Tiled or slated roof on tiling battens
2. Low resistance underlay
3. ISOVER insulation installed between rafters
4. Vario® membrane + tapes
5. ISOVER insulation between counter battens
6. Gyproc WallBoard



ISOVER PRODUCTS

Metac Roll + Comfort Roll 35 + Vario® System

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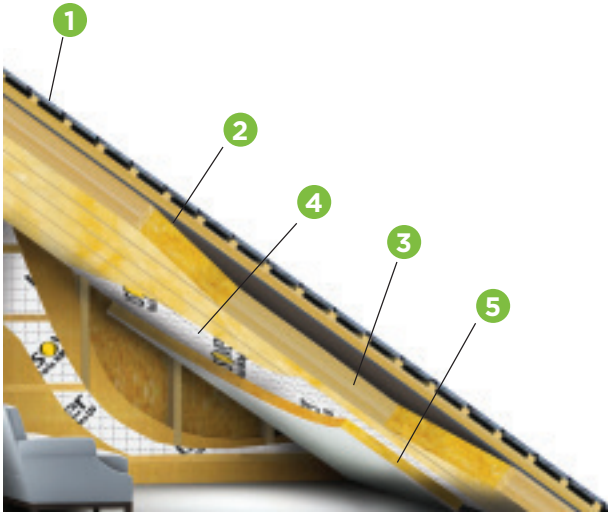
*ISOVER recommends for better performance. For more info, See the BUILDING REGULATIONS section of this guide.

Insulation In Rafters	Insulation In Counter Batten	Airtightness/ Moisture Control	Board Lining	U-value W/m²K
150mm Metac	50mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.18
180mm Metac	50mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.16
200mm Comfort 35	50mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.15
220mm Metac*	50mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.14

Pitched Roof with Calibel

Insulation full filled between rafters + Vario® + Calibels

1. Tiled or slated roof on tiling battens
2. Low resistance underlay
3. ISOVER insulation installed between rafters
4. Vario Xtra membrane and tapes
5. ISOVER Calibel OVER insulation between counter battens



ISOVER PRODUCTS

Metac Roll + Calibel Board + Vario® System

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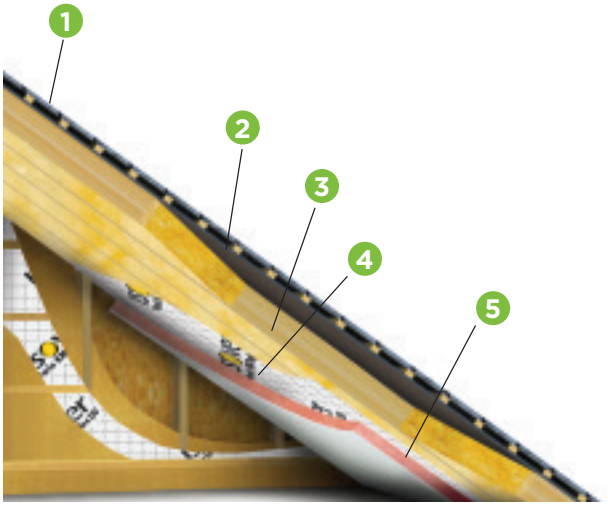
Insulation In Rafters mm	Airtightness & Moisture Control Layer	Thermal Laminate	U-value W/m²K
Metac 150	Vario® Xtra	42.5 Calibel	0.20
Metac 150	Vario® Xtra	62.5 Calibel	0.18
Metac 180	Vario® Xtra	62.5 Calibel	0.16
Metac 220	Vario® Xtra	62.5 Calibel	0.14

Pitched Roof with Thermal Laminate

Insulation full filled between rafters + Vario + Thermal Laminate

1. Air-open tiles/slates on tiling battens (no ventilation space/ counter-battens)
2. Low resistance underlay
3. ISOVER insulation installed between rafters
4. Vario KM Duplex membrane and tapes
5. Thermal Laminate



ISOVER PRODUCTS

Metac Roll

Vario® System

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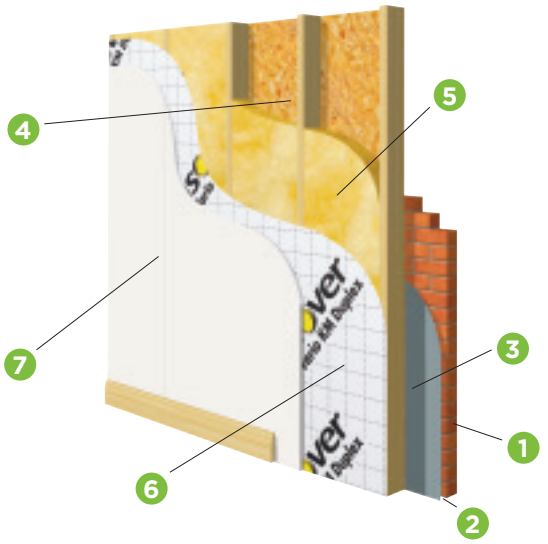
* Refers to a rigid foam insulation material and a 12.5mm plasterboard, please refer to manufacturers guidelines for performance.

Insulation In Rafters mm	Airtight Layer Only	Thermal Laminate	U-value W/m²K
Metac 150	Vario KM Duplex	32.5mm Thermal laminate	0.20
Metac 150	Vario KM Duplex	42.5mm Thermal laminate	0.18
Metac 150	Vario KM Duplex	62.5mm Thermal laminate	0.15
Metac 180	Vario KM Duplex	72.5mm Thermal laminate	0.13
Metac 220	Vario KM Duplex	72.5mm Thermal laminate	0.11

Timber Frame Wall

Insulation between studs

1. External brick
2. Cavity
3. Breather membrane
4. Sheathing board
5. ISOVER insulation between studs
6. Vario® membrane + tapes
7. 12.5mm Gyproc WallBoard



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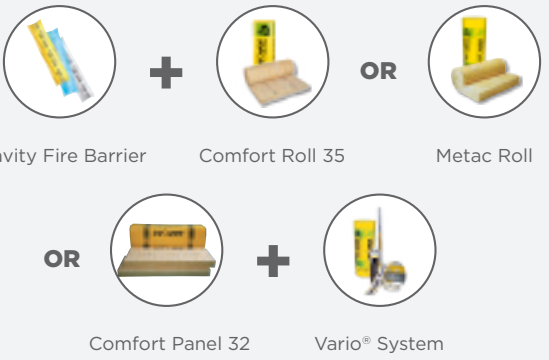

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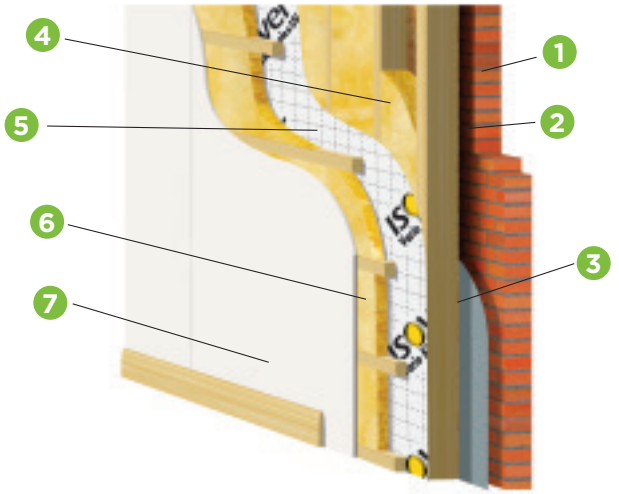
Insulation	Airtightness/Moisture Control	Board Lining	U-value W/m²K
140mm Comfort 35	Vario® membrane + tapes	Gyproc PlasterBoard	0.28
140mm Comfort 32	Vario® membrane + tapes	Gyproc PlasterBoard	0.27
150mm Metac	Vario® membrane + tapes	Gyproc PlasterBoard	0.26
180mm Metac	Vario® membrane + tapes	Gyproc PlasterBoard	0.21
220mm Metac*	Vario® membrane + tapes	Gyproc PlasterBoard	0.19

*ISOVER recommends for better performance. For more info, See the BUILDING REGULATIONS section of this guide.

Timber Frame Wall

Insulation Between Timber Studs and Counter Battens

1. External brick
2. 50mm clear cavity
3. Breather membrane + Sheathing board
4. ISOVER insulation between studs
5. Vario® membrane + tapes
6. ISOVER insulation between counter batten
7. Gyproc WallBoard



ISOVER PRODUCTS


Cavity Fire Barrier

+


Comfort Roll 35

OR


Comfort Panel 32

+


Metac Roll

+


Vario® System

More CAD details and application variants are available to download by registering and logging into **www.isover.ie/spechub**

Please contact us for more information on this and other applications:

Free Phone (ROI): 1800 744480
Free Phone (NI): 0845 3990159
Email: tech.ie@saint-gobain.com

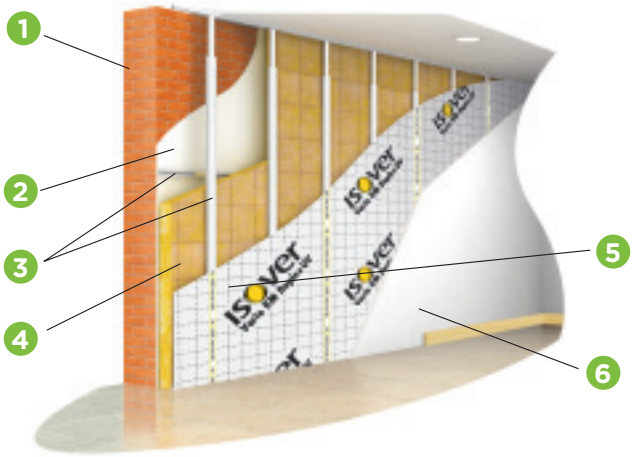
Insulation in Stud	Insulation in Counter Batten	Airtightness/Moisture Control	Board Lining	U-value W/m²K
140mm Comfort 35	50mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.21
140mm Comfort 32	50mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.20
150mm Metac	50mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.19
180mm Metac	50mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.17
220mm Metac*	50mm Metac	Vario® membrane + tapes	12.5mm Gyproc WallBoard	0.15

*ISOVER recommends for better performance. For more info, See the BUILDING REGULATIONS section of this guide.

Dry Lining

Multiple Substrates/Construction Types

1. 215mm solid brick, rendered externally
2. 13mm Gyproc Plaster
3. Optima metal studs + fixings
4. ISOVER insulation
5. Vario membrane + tapes placed on studs
6. Gyproc WallBoard



Optima can be used in a number of construction types, on a number of substrates. These include:

- ✔ Hollow Block
- ✔ Concrete Wall
- ✔ Single storey rendered brick construction
- ✔ Masonry (Partial/Full Fill)
- ✔ Cavity Walls (Partial/Full Fill)
- ✔ Stone walls (In Good Order)

ISOVER PRODUCTS

Optima Drylining System

+

Comfort Panel 32

OR

Comfort Roll 35

OR

Metac Roll

+

Vario® System

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Dry Lining - Cavity Wall Partial Fill

Insulation	U-value W/m²K	Total Thickness Of Drylining System (mm)
60mm Comfort 32	0.24	92.5
80mm Comfort 35	0.22	112.5
100mm Comfort 35	0.20	132.5
100mm Metac	0.19	132.5
120mm Comfort 32	0.17	152.5
140mm Comfort 35*	0.16	172.5
140mm Comfort 32	0.15	172.5

Dry Lining - Hollow Block

Insulation	U-value W/m²K	Total Thickness Of Drylining System (mm)
80mm Comfort 35	0.34	112.5
100mm Comfort 35	0.28	132.5
100mm Metac	0.28	132.5
150mm Metac 34	0.20	182.5
120mm Comfort 32	0.23	152.5
140mm Comfort 35	0.21	172.5
140mm Comfort 32*	0.20	172.5

Dry Lining - Concrete Wall

Insulation	U-value W/m²K	Total Thickness Of Drylining System (mm)
100mm Comfort 35	0.28	132.5
100mm Metac	0.27	132.5
150mm Metac 34	0.19	182.5
120mm Comfort 32	0.22	152.5
140mm Comfort 35	0.21	172.5
140mm Comfort 32*	0.19	172.5

*ISOVER recommends for better performance. For more info,
See the BUILDING REGULATIONS section of this guide.

Dry Lining - Single Storey Rendered Brick Construction

Insulation	U-value W/m²K	Total Thickness Of Drylining System (mm)
60mm Comfort 32	0.38	92.5
100mm Metac	0.27	132.5

Cavity Walls - Full Fill

Cavity Insulation	U-value W/m²K
100mm Hi-Cav 32	0.27
115mm Hi-Cav 32	0.24
150mm Hi-Cav 32	0.19
185mm Hi-Cav 32*	0.16
300mm Hi-Cav 32	0.10

*ISOVER recommends for better performance. For more info, See the BUILDING REGULATIONS section of this guide.

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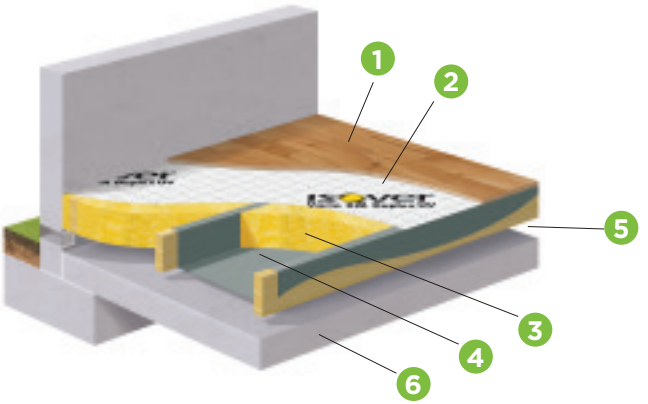
Suspended Ground Floors

Timber - Insulated Between Joists

1. Timber walking surface
2. Vario® membrane + tapes
3. ISOVER insulation between joists
4. Breather membrane / netting
5. Ventilated void
6. Ground floor slab



ISOVER PRODUCTS


Spacesaver Roll

OR


Metac Roll

+


Vario® System

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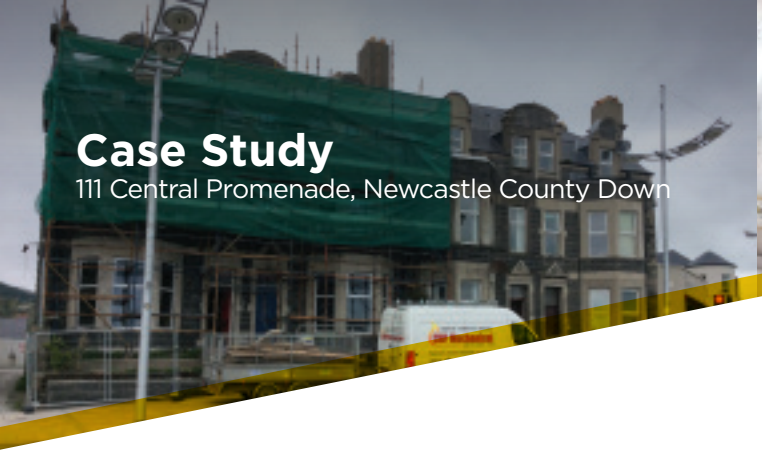
Insulation between joists	Airtightness/Moisture Control	P/A Ratio							
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
		U-Values W/m²K							
100mm Metac	Vario® membrane + tapes	0.15	0.20	0.22	0.23	0.24	0.25	0.26	0.26
150mm Metac	Vario® membrane + tapes	0.13	0.16	0.18	0.18	0.19	0.20	0.20	0.20
180mm Metac	Vario® membrane + tapes	0.12	0.15	0.16	0.16	0.17	0.17	0.17	0.18
220mm Metac	Vario® membrane + tapes	0.11	0.13	0.14	0.14	0.15	0.15	0.15	0.15
100mm Spacesaver	Vario® membrane + tapes	0.16	0.21	0.24	0.26	0.27	0.28	0.28	0.29
150mm Spacesaver	Vario® membrane + tapes	0.14	0.18	0.20	0.21	0.21	0.22	0.22	0.23
200mm Spaceasver	Vario® membrane + tapes	0.12	0.15	0.16	0.17	0.18	0.18	0.18	0.19



Case Study

111 Central Promenade, Newcastle County Down

Project Overview

Category: Retrofit

Duration: 8 months

Contractor/Specifier:
CHP Mechanical and Liam Milling Architects

Size : 600m²

ISOVER PRODUCTS USED

Optima Drylining System
Metac
Acoustic Roll
Spacesaver Roll
Spacesaver Plus

Project Goal

The aim of the project was to convert two early 20th century houses into 7 contemporary apartments for the popular sea side town of Newcastle. The owner required a high spec finish and we had to consider the external fabric of the buildings to enable Isover to come up with a suitable system that would work with the existing buildings.

Project Challenges

Due to the age of the houses there was some concern as the external walls were leaking water. The fact the external walls were wet, required a system that would give the owner durability, moisture management, air tightness, robustness, an upgrade in thermal, acoustic performance and are adaptable to suit the building.

How did you overcome these challenges?

At the first site meeting, Mark McCormick raised concerns that the wall lining on the plans would cause moisture in the external walls to become trapped and over time cause issues. We then put forward our ISOVER Optima system, and when Liam the architect checked everything out he decided to change the plans to use ISOVER's Optima Drylining System.

What challenges were unique about this build?

The age of the building and the high spec finish of the apartments which would allow the apartments to be used all year round.

How did you overcome these unique challenges?

We produced u value reports and condensation analysis which showed that we matched the required u value, allowed the walls to breath, had an excellent air tightness level, was robust and gave a greater level of acoustic performance.

U Value achieved : External walls 0.20

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