



# **THERMAL WALL & FLOOR SOLUTIONS**

Wall & Floor Solutions  
for Thermal Performance

# CONTENTS

Introduction .....	3
Standards and Certification .....	4
Fire Performance .....	5
Building Regulations .....	6
Timber Frame External Wall .....	8
Masonry Separating Party Wall .....	12
Suspended Ground Floors .....	14
Isover Metac Roll.....	16
Case Study .....	18



# THERMAL WALLS & FLOORS

## ISOVER INSULATION & VARIO® SYSTEM

Isover offers one of the safest options for insulating walls & floors for thermal performance, both in New Build and Renovation projects.

Isover Metac is a high performance mineral wool insulation 'slab on a roll'. When used in conjunction with our Vario® Airtightness and Moisture Control System it offers a market leading solution in terms of thermal, acoustic and safety performance. If also combined with Isover InLiner Board you have the complete mineral wool pitched roof solution. Isover InLiner Board is a super dense, rigid and high performance laminated insulation plasterboard.

### Metac insulation

- ✓ **High performance** thermal insulation
- ✓ **Vapour permeable** insulation for maximum protection from moisture and condensation issues
- ✓ **A1 fire rating** (for Isover mineral wool) highest rating on the market EN 13501-1
- ✓ **Avoid slump** during installation and life of the system
- ✓ **Friction fits** to aid in eliminating any air gaps
- ✓ **Excellent Indoor Air Quality** Eurofins Gold Comfort
- ✓ **Made from Recycled materials** up to 75% recycled glass



ACOUSTIC INSULATION



FIRE PROTECTION



MOISTURE CONTROL



BREATHABLE



MINIMAL WASTE



EASY TO TRANSPORT



ENERGY SAVINGS



EASY TO INSTALL



RECYCLED GLASS



PROTECTED PLANET



EUROCLASS A2 FIRE RATING

W/mK 0.031-0.036



### Where to use



Residential



New and Old



# STANDARDS AND CERTIFICATION

<b>Quality</b>	We hold a Quality Management Standard EN ISO 9001: 2015 for manufacturing.
<b>CE</b>	All products are manufactured in accordance with the CE marking requirements under the Construction Products Regulation
<b>Product Standards</b>	All products are manufactured in accordance with product standard: EN 13162:2012+A1:2015 and EN 13172 Evaluation of Conformity.
<b>Environment</b>	Isover is an ISO 14001:2015 (Environmental Management System) accredited manufacturing facility. This accreditation ensures that all products are manufactured to the stringent standards set out by this management system.
<b>Indoor Air Quality</b>	Awarded the highest standard in indoor air quality - Eurofins "Gold" Label The Gold Certificate means that Isover mineral wool is certified as an outstanding material in terms of Indoor Air Quality emissions regulations.
<b>Durability</b>	Fire Performance Euroclass classification of the product is related to the organic content, which cannot increase with time. Thermal conductivity of mineral wool products does 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.
<b>Responsibly Sourced</b>	Our products have been manufactured to BES60001 to ensure their constituent materials have been responsibly sourced.





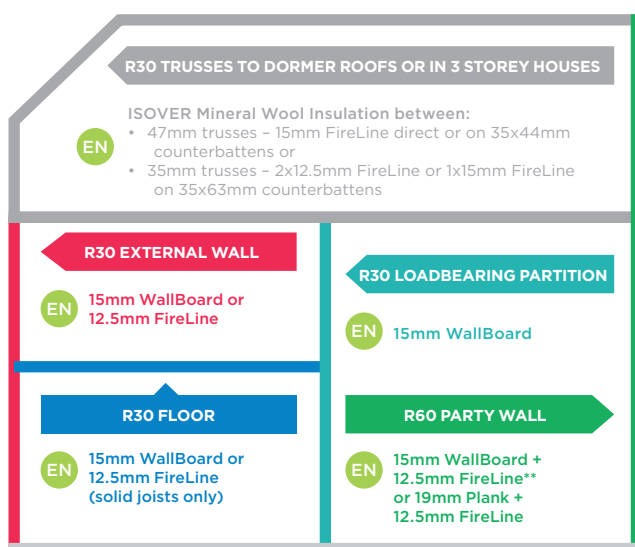
# FIRE PERFORMANCE IN TIMBER FRAME BUILDINGS

**JULY 1ST 2017**

## EN Standards instead of BS

As of July 1st 2017, new Building Regulations require fire protection of structural building elements in dwellings to be assessed under EN standards instead of British Standards (BS). The EN test uses a furnace that burns hotter/faster than the 'national' British Standard, BS 476 which means that building elements are subject to more onerous conditions and may need higher specifications as a result.

### Gyproc® plasterboard linings on example timer frame construction\*



**Supplementary  
Guidance to TGD B  
(Fire Safety) Vol 2,  
2017.  
Issued Sept 2020.**

#### Guidance on Timber Frame Walls

*"The build-up including linings must be carried out in the factory for all separating walls."*



An Roinn Tithíochta,  
Pleanála agus Rialtais Áitiúil  
Department of Housing,  
Planning and Local Government



\* This construction is specific to the relevant test evidence including loading, insulation, noggings, firestopping, fixing centres and counter battens. Designers must ensure the tested system is consistent with the built construction.

\*\*OSB sheathing to cavity.

Alternatives must be based on complete & relevant fire test evidence.

Visit the Technical Academy for our free courses on fire:  
**[www.saint-gobain.ie/technical-academy/courses-cpds](http://www.saint-gobain.ie/technical-academy/courses-cpds)**

For full system description, please refer to our Timber Frame Guide or contact the Saint-Gobain (Isover) Technical Department.



TECHNICAL ACADEMY

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

*New Build U-Values:***0.16 Pitched Roof***Renovation U-Values:***0.25 Pitched Roof**

# BUILDING REGULATIONS REPUBLIC OF IRELAND

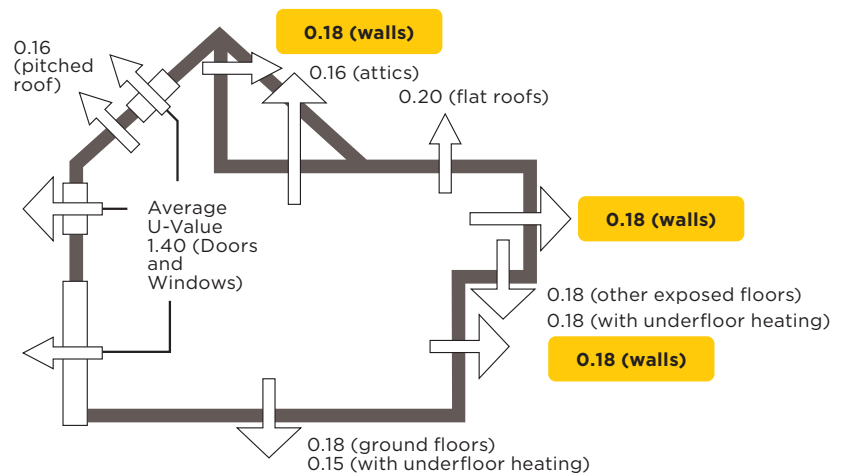
The following is a guide to thermal building regulations for new & existing dwellings, delivering comfort and energy savings through effective thermal insulation.

## Republic of Ireland

### New Dwellings TGD - Part L - 2019

Minimum standards for U-Values

Upper limit for air permeability is  $5\text{m}^3/(\text{h.m}^2)$

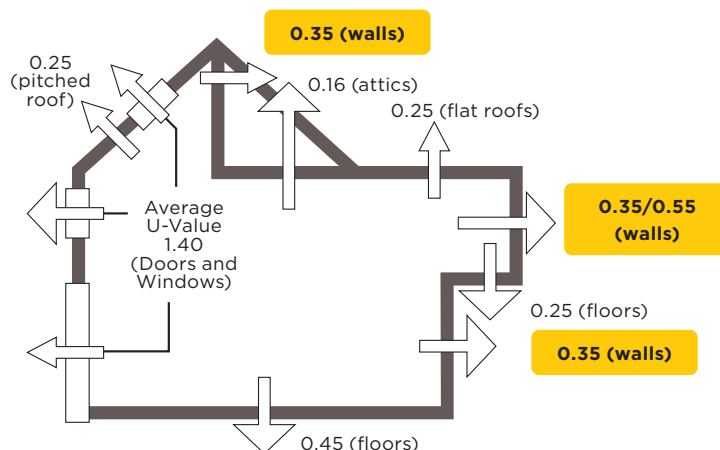


For more information you can contact our technical team on free phone (ROI) 1800 744480 or go to [www.isover.ie](http://www.isover.ie)

## Republic of Ireland

### Existing Dwellings TGD - Part L - 2019

Minimum standards for U-Values



For more information you can contact our technical team on free phone (ROI) 1800 744480 or go to [www.isover.ie](http://www.isover.ie)



Contact our technical team for more info

**ROI**  
1800 744480

**NI**  
0845 399 0159

**EMAIL**  
[tech.ie@saint-gobain.com](mailto:tech.ie@saint-gobain.com)

*New Build U-Values:***0.20 Pitched Roof***Renovation U-Values:***0.18 Pitched Roof**

# BUILDING REGULATIONS NORTHERN IRELAND

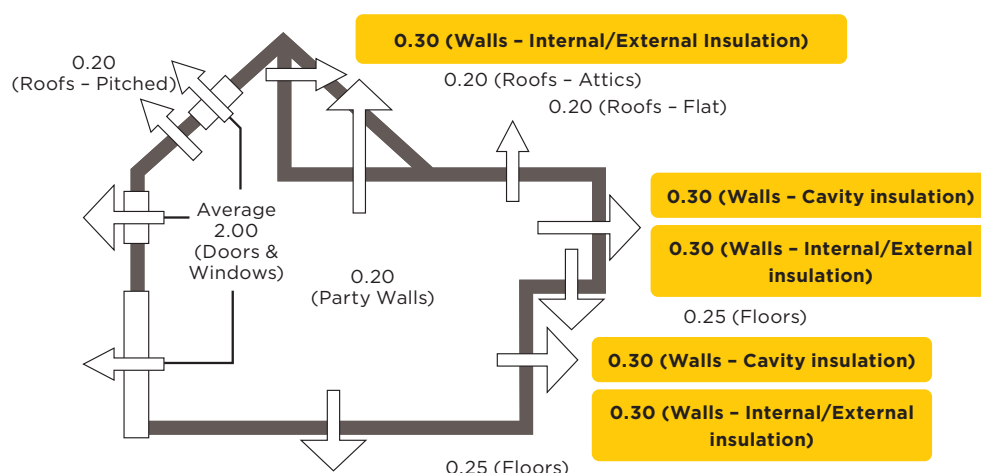
The following is a guide to thermal building regulations for new & existing dwellings, delivering comfort and energy savings through effective thermal insulation.

## Northern Ireland

### New Dwellings - DFP Technical Booklet F1:2012

Minimum standards for U-Values

Upper limit for air permeability is  $10\text{m}^3/(\text{h.m}^2)$



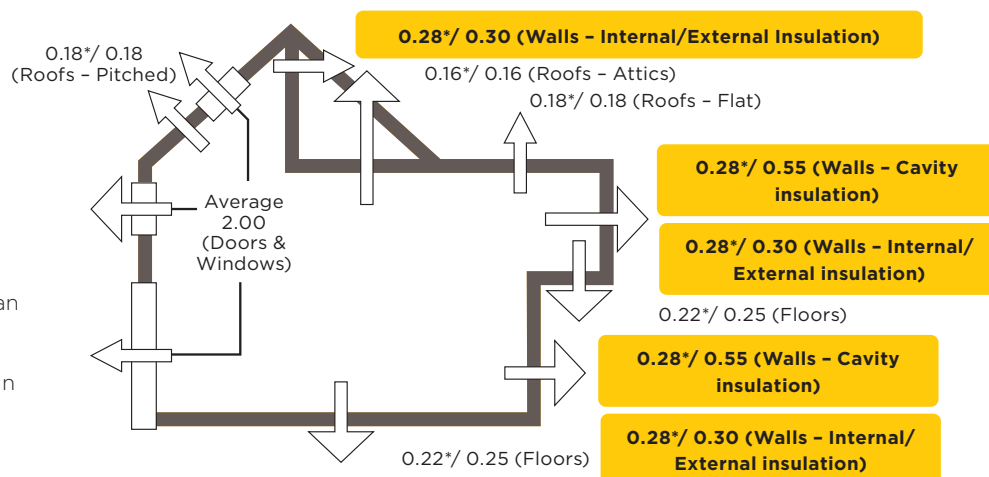
For more information you can contact our technical team on phone (NI) 0845 339 0159 or go to [www.isover.ie](http://www.isover.ie)

## Northern Ireland

### Existing Dwellings - DFP Technical Booklet F1:2012

Minimum standards for U-Values

These regulations are split across new thermal elements added to an existing dwelling, for example a new extension or dormer & upgraded thermal elements within the existing building.



\*figures refer to a new element added to an existing dwelling i.e. extension, dormer etc.

For more information you can contact our technical team on phone (NI) 0845 339 0159 or go to [www.isover.ie](http://www.isover.ie)

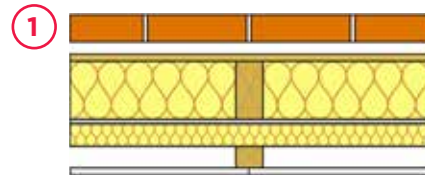
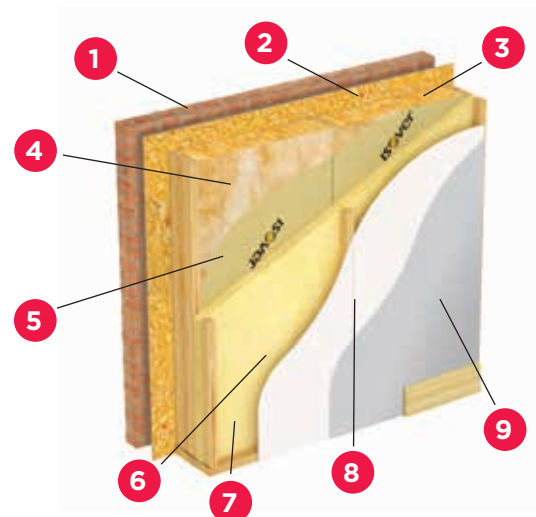


# TIMBER FRAME EXTERNAL WALL

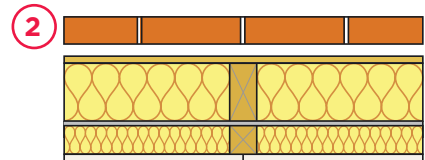
## Insulation between studs

1. Brick Outer Leaf
2. Cavity 25mm secured with wall ties
3. Breather membrane on OSB affixed to timber studs on the cavity side of the build up
4. Isover Insulation Metac 031 140mm friction fit between 600mm studs
5. Isover StopVap or KM Duplex Airtightness Membrane affixed to inside of timber studs. Joints of membrane sealed to each other with Vario® Airtightness tapes and accessories
6. HD Slab, affixed to the rafters using full height battens, running parallel to the studs of the external wall
7. Batten with 50mm Service Cavity
8. Gyproc plasterboard as described in the table below
9. Gyproc plaster finish

## High Performance Solution













Note: U-Values provided in below performance table



Note: For U-Value calculations please contact the technical department

## Performance Table

Fire Performance		Plasterboard Specification		High Performance Board Options		
	<b>1</b>	<b>30 MINUTES</b>	1 x 12.5mm WallBoard	1 x 12.5mm SoundBloc		
				1 x 12.5mm Habito*	  	
	<b>2</b>	<b>30 MINUTES</b>	1 x 15mm WallBoard	1 x 15mm SoundBloc		
				1 x 12.5mm Habito*	  	

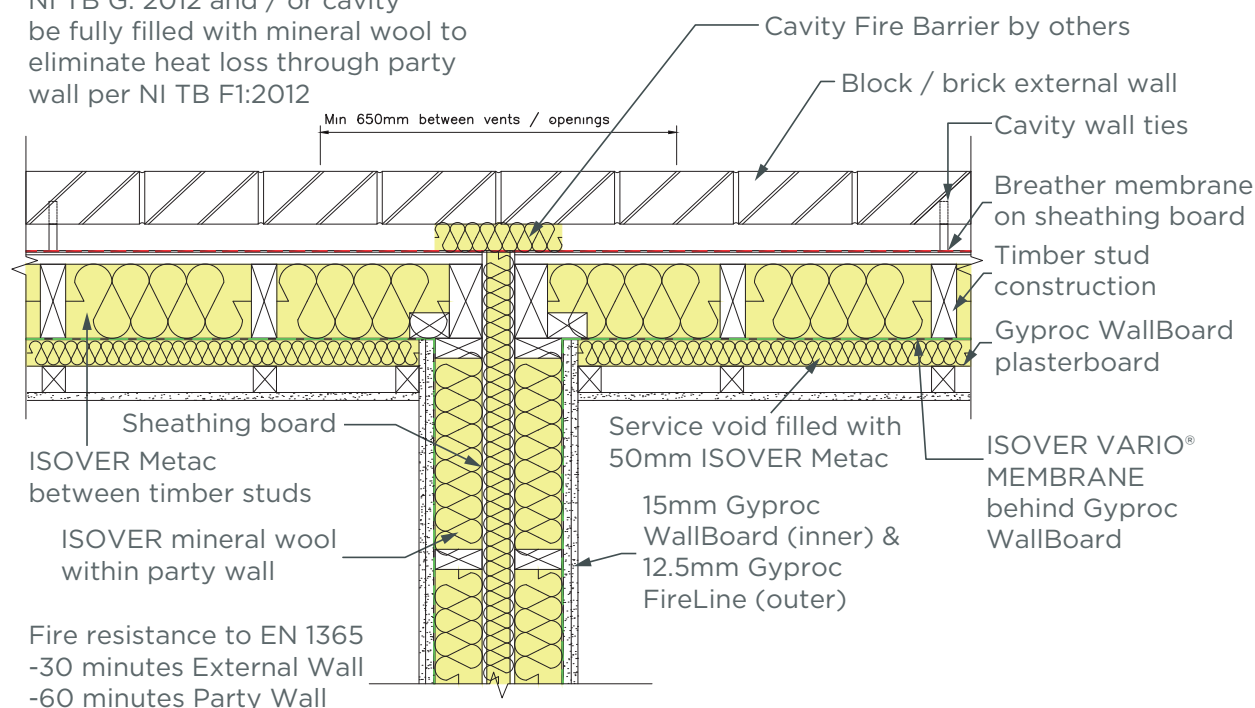
Stud Size	Insulation Studs	Insulation Face	Airtightness	U-Values		
				Refl. Foil**	600 c/c	400 c/c
140 x 38	Acoustic Roll 036 150mm	HD Slab 032 50mm	Vario® StopVap/KM Duplex & Vario® Accessories	0.16	0.17	0.18
140 x 38	Comfort 035 140mm	HD Slab 032 50mm	Vario® StopVap/KM Duplex & Vario® Accessories	0.15	0.17	0.18
140 x 38	Metac 034 150mm	HD Slab 032 50mm	Vario® StopVap/KM Duplex & Vario® Accessories	0.15	0.17	0.18
140 x 38	Metac 031 140mm	HD Slab 032 50mm	Vario® StopVap/KM Duplex & Vario® Accessories	0.14	0.16	0.17
175 x 38	Metac 034 180mm	HD Slab 032 50mm	Vario® StopVap/KM Duplex & Vario® Accessories	0.13	0.15	0.15
175 x 38	Metac 031 180mm	HD Slab 032 50mm	Vario® StopVap/KM Duplex & Vario® Accessories	0.13	0.14	0.15
200 x 38	Metac 034 2x100mm	HD Slab 032 50mm	Vario® StopVap/KM Duplex & Vario® Accessories	0.12	0.14	0.14

\*\*With reflective foil per manufacturer's claims



## Application CAD Details

Mineral wool should return min 300mm into Party Wall cavity per NI TB G: 2012 and / or cavity be fully filled with mineral wool to eliminate heat loss through party wall per NI TB F1:2012



External Wall 2 layers of 12.5mm Gyproc FireLine required on external wall for buildings with separating floors or requiring 60 minutes fire rating (to EN test standards)

### Note:

Not all standard construction details are shown on this drawing. If unsure about any detail check with site engineer.



Contact our technical team for more info

**ROI**  
1800 744480

**NI**  
0845 399 0159

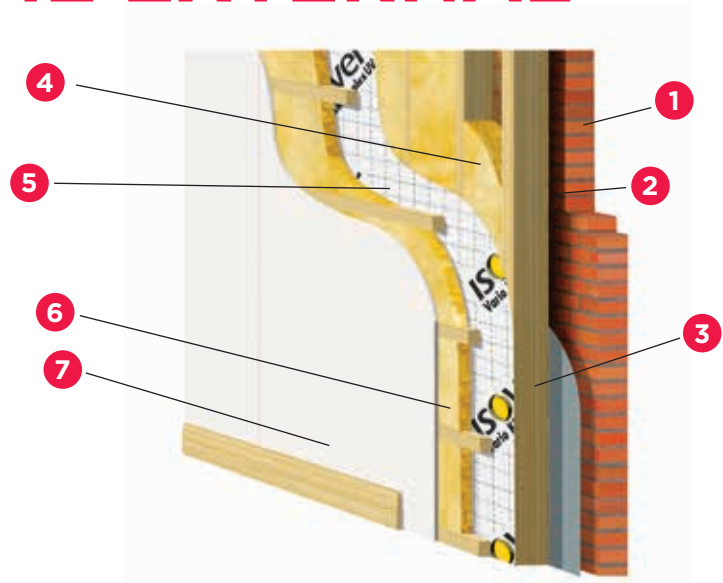
**EMAIL**  
tech.ie@saint-gobain.com



# TIMBER FRAME EXTERNAL 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® System
6. Isover insulation between counter batten
7. Gyproc WallBoard
8. Gyproc Plaster Finish



Insulation Between Studs	Insulation Lambda	Insulation On Studs	Insulation Lambda	Airtightness	Board Lining	U-Value*	U-Value*	U-Value*	U-Value*
						400 centres	600 centres	400 centres	600 centres
						without reflective foil	with reflective foil		
Comfort 140mm / Timber Frame Roll 140mm	0.035	Metac 50mm (between counter battens)	0.034	Vario® System	WallBoard affixed to CBs	0.19	0.19	0.18	0.17
Timber Frame Roll 140mm	0.032	Metac 50mm (between counter battens)	0.034	Vario® System	WallBoard 12.5mm	0.18	0.18	0.17	0.16
Metac 140mm	0.031	Metac 50mm (between counter battens)	0.034	Vario® System	WallBoard affixed to CBs	0.18	0.17	0.17	0.16
Metac 150mm	0.034	Metac 50mm (between counter battens)	0.034	Vario® System	WallBoard affixed to CBs	0.19	0.18	0.19	0.17
Metac 180mm	0.034	Metac 50mm (between counter battens)	0.034	Vario® System	WallBoard affixed to CBs	0.16	0.16	0.15	0.14
Metac 180mm	0.031	Metac 50mm (between counter battens)	0.034	Vario® System	WallBoard affixed to CBs	0.016	0.15	0.15	0.14
Metac 220mm	0.034	Metac 50mm (between counter battens)	0.034	Vario® System	WallBoard affixed to CBs	0.14	0.13	0.13	0.12

\*U-Value measured in W/m<sup>2</sup>k

## Isover Products



Comfort Roll 35



Metac



Vario® System



Timber Frame Roll

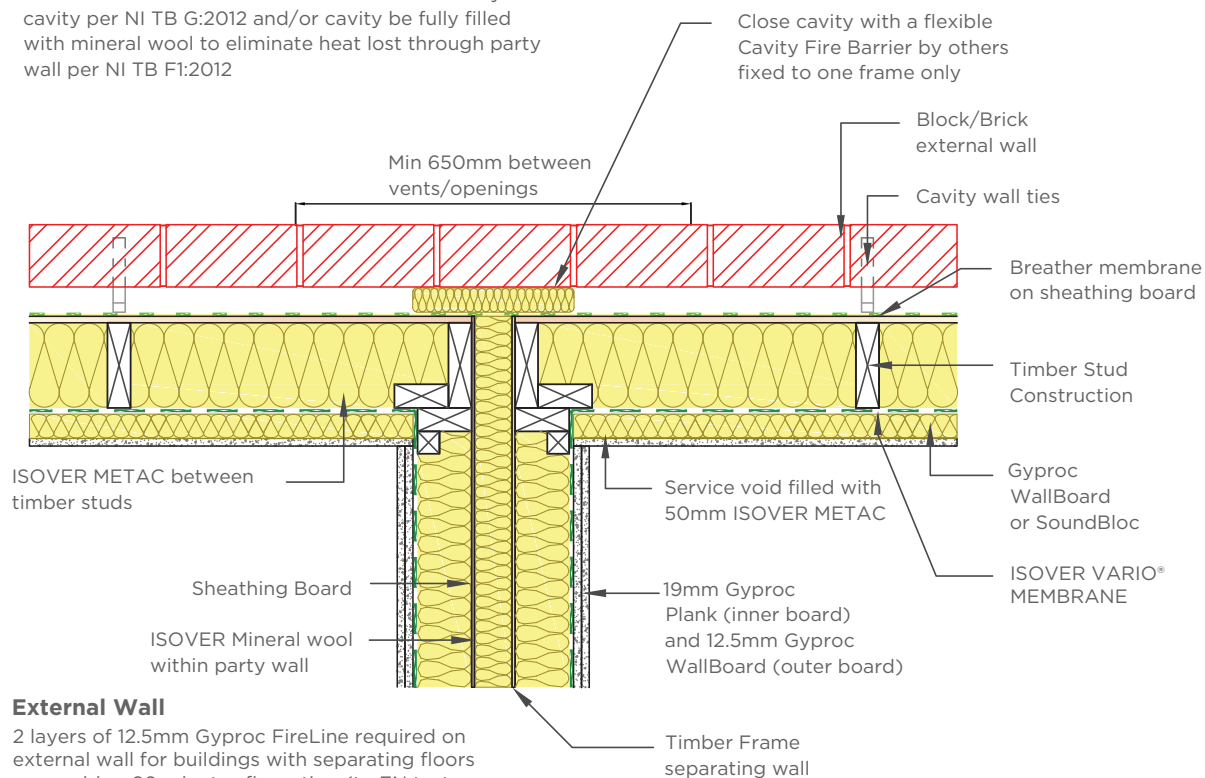


Metac 031



## Application CAD Details

Mineral wool should return min 300mm into Party Wall cavity per NI TB G:2012 and/or cavity be fully filled with mineral wool to eliminate heat lost through party wall per NI TB F1:2012



### External Wall

2 layers of 12.5mm Gyproc FireLine required on external wall for buildings with separating floors or requiring 60 minutes fire rating (to EN test standards) Est. lab sound insulation 100-3150 Hz: Airborne 50-55 R<sub>w</sub>dB

### Note:

Not all standard construction details are shown on this drawing. If unsure about any detail check with site engineer.



Contact our technical team for more info

**ROI**  
1800 744480

**NI**  
0845 399 0159

**EMAIL**  
tech.ie@saint-gobain.com

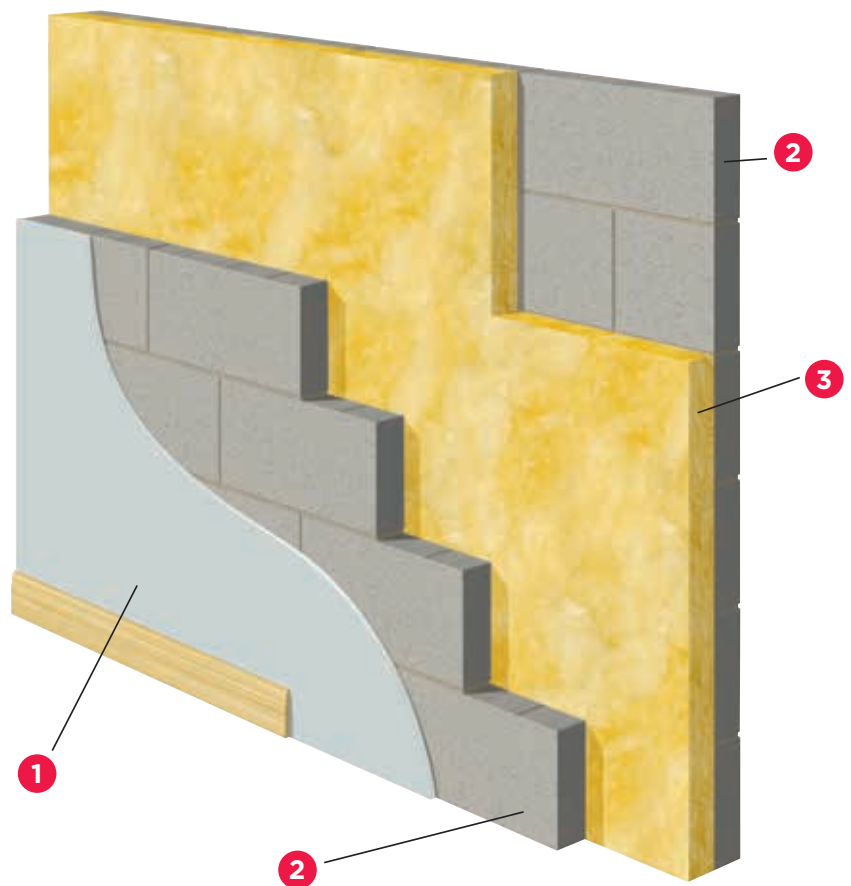


# MASONRY SEPARATING PARTY WALL

## Twin Leaf Construction Blockwork

1. Nominal 11 mm Gyproc Hard Coat + 2 mm Gyproc Skimcoat or Carlite Finish
2. 100mm block leaves (minimum density 1375 kg/m<sup>3</sup>)
3. Minimum 75mm Isover Cavity Wall Slab or 75mm RD Party Wall Roll (zero U-value)\*

\* Isover insulation used in conjunction with Gyproc plasters and plasterboards meet the requirements of the guidance for Separating Wall types 2.1 & 2.2 as per examples given in Northern Ireland Building Regulations Technical Booklet G 2012. Pre-Completion Testing is required when specifying Building Regulations Technical Booklet G Guidance Constructions.



## Isover Products



RD Party Wall Roll

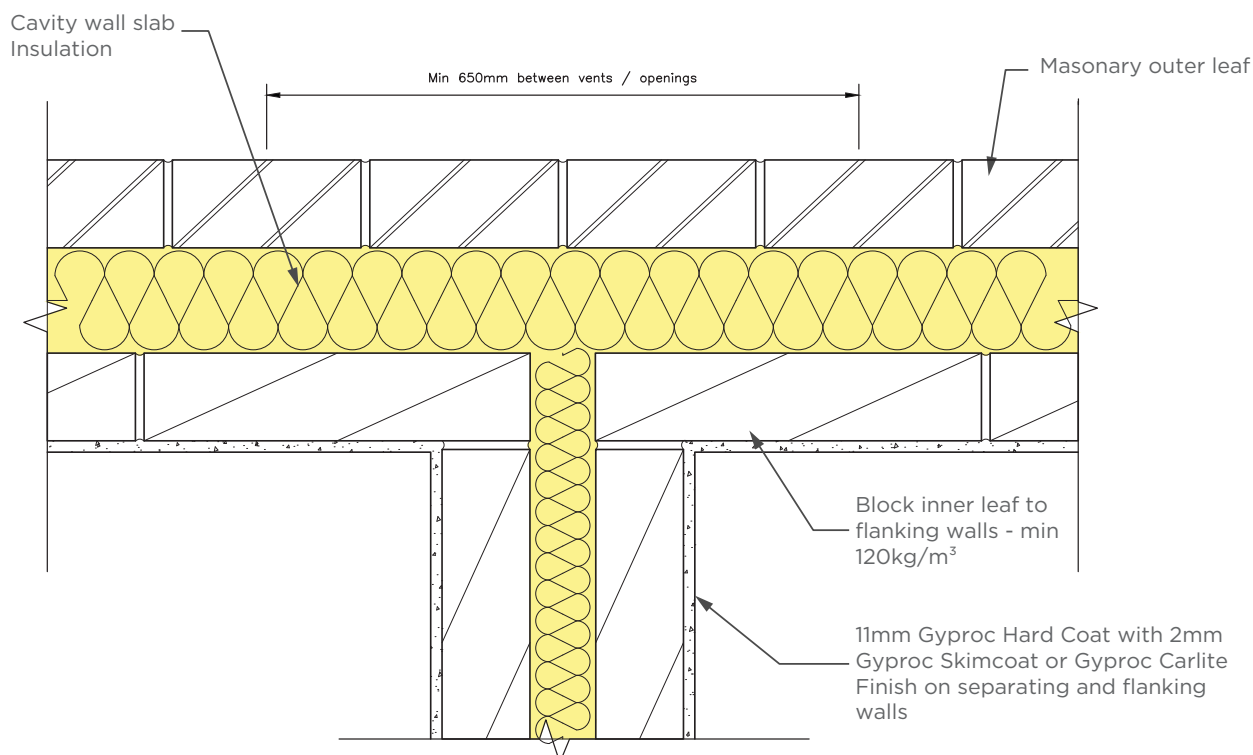
OR



Cavity Wall Slab

## Application CAD Details

Mineral wool should return min 300mm into Party Wall cavity per NI TB G: 2012 and / or cavity be fully filled with mineral wool to eliminate heat loss through Party Wall per NI TB F1:2012



### Note:

Not all standard construction details are shown on this drawing. If unsure about any detail check with site engineer.



*Contact our technical team for more info*

**ROI**  
1800 744480

**NI**  
0845 399 0159

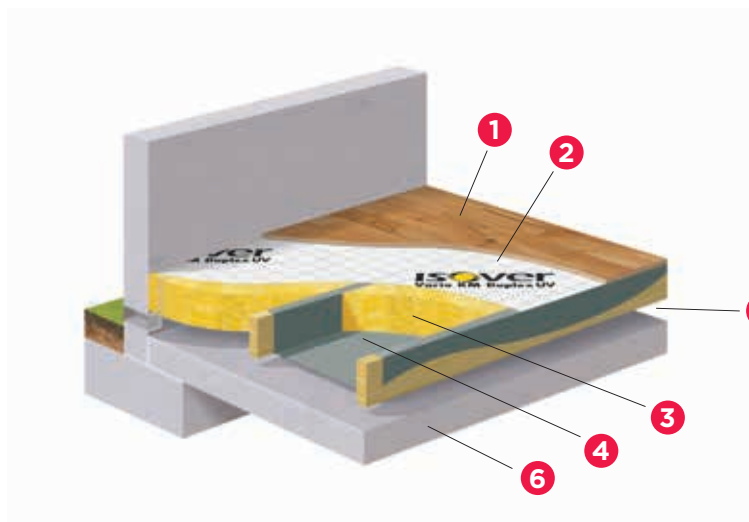
**EMAIL**  
tech.ie@saint-gobain.com



# 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 Metac is a high performance mineral wool insulation 'slab on a roll'. When used in conjunction with our Vario® Airtightness and Moisture Control System it offers a market leading solution in terms of thermal, acoustic and safety performance. If also combined with Isover InLiner Board you have the complete mineral wool pitched roof solution. Isover InLiner Board is a super dense, rigid and high performance laminated Insulated Plasterboard.

Joist size	Insulation between joists	Lambda	Thickness	ATMC	U-Value per P/A Ratio							
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
100	Spacesaver	44	100	Vario® System	0.16	0.22	0.25	0.27	0.28	0.29	0.3	0.31
100	Spacesaver Plus	40	100	Vario® System	0.16	0.21	0.024	0.026	0.27	0.28	0.29	0.29
100	Metac	34	100	Vario® System	0.15	0.2	0.22	0.24	0.25	0.26	0.027	0.27
150	Spacesaver	44	150	Vario® System	0.14	0.18	0.2	0.21	0.22	0.23	0.23	0.24
150	Spacesaver Plus	40	150	Vario® System	0.14	0.17	0.19	0.2	0.21	0.22	0.22	0.23
150	Metac	34	150	Vario® System	0.13	0.16	0.18	0.19	0.2	0.2	0.21	0.22
150	Metac	31	140	Vario® System	0.13	0.16	0.17	0.18	0.19	0.19	0.2	0.2
180	Metac	34	180	Vario® System	0.12	0.15	0.16	0.17	0.17	0.18	0.18	0.18
180	Metac	31	180	Vario® System	0.12	0.14	0.15	0.16	0.17	0.17	0.17	0.17
200	Spacesaver	44	200	Vario® System	0.13	0.16	0.17	0.18	0.18	0.19	0.19	0.2
200	Spacesaver Plus	40	200	Vario® System	0.12	0.15	0.16	0.17	0.17	0.18	0.18	0.18
220	Metac	34	220	Vario® System	0.11	0.13	0.14	0.15	0.15	0.15	0.15	0.16

Note: The U-Value for floors (including basement floors) depends on the length of the exposed perimeter (to unheated buildings or outside). Example: Perimeter Area (P/A) Ratio = Length of exposed perimeter (m) divided by the internal floor area (m²).

9m	Exposed Perimeter Length: 7m + 9m + 7m = 23m
EXAMPLE SEMI-DETACHED HOUSE	Internal Floor Area: 7m x 9m = 54m²
9m	P/A Ratio = (23/54) = 0.4

9m	Exposed Perimeter Length: 7m + 9m + 7m = 32m
EXAMPLE DETACHED HOUSE	Internal Floor Area: 7m x 9m = 54m²
9m	P/A Ratio = (32/54) = 0.6

Therefore based on a P/A ratio of 0.4 for the semi-detached house, from the table above 150mm Isover Metac can achieve a U-Value of 0.18W/m²K but a detached house of the same size/shape the P/A ratio would increase to 0.6 and the U-Value based on 150mm Isover Metac would change to 0.20 W/m²K as per table above.

## Isover Products



Spacesaver Roll

OR



Metac

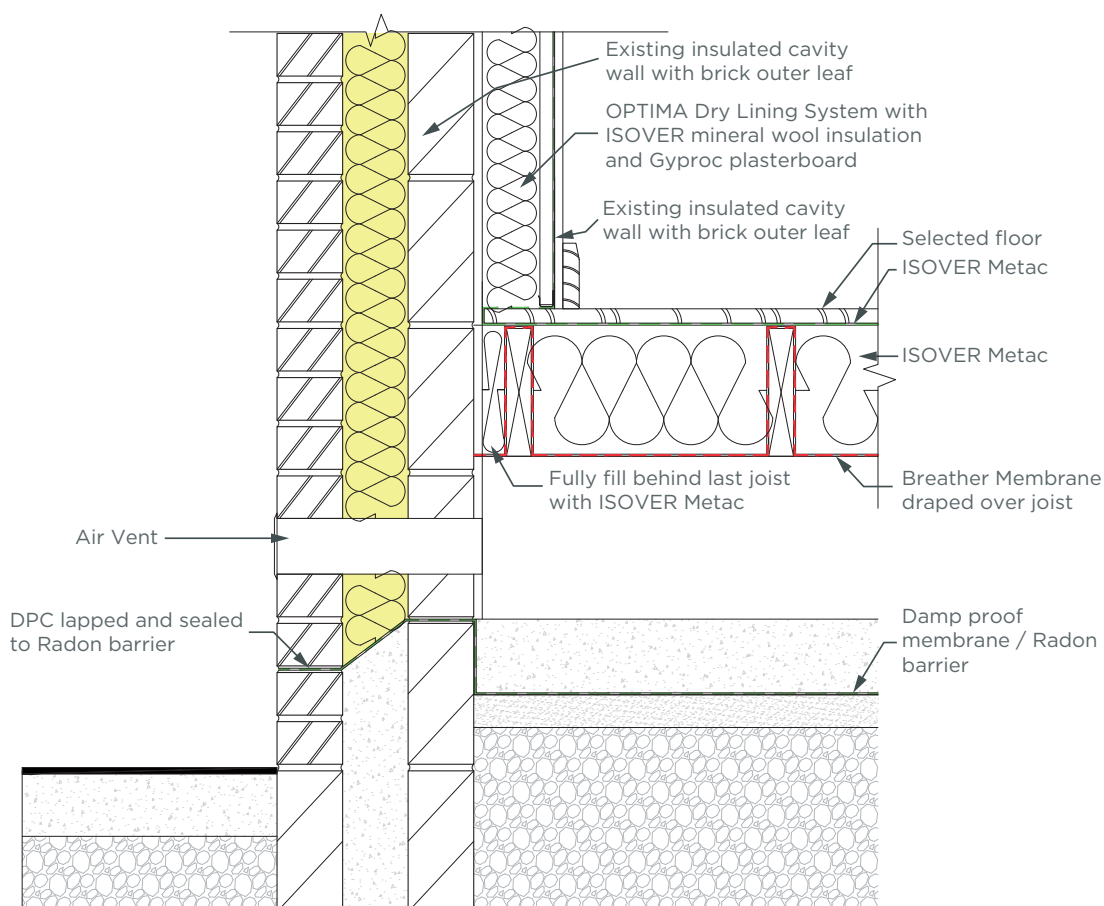
+



Vario® System



## Application CAD Details



### Note:

Not all standard construction details are shown on this drawing. If unsure about any detail check with site engineer.



*Contact our technical team for more info*

**ROI**  
1800 744480

**NI**  
0845 399 0159

**EMAIL**  
tech.ie@saint-gobain.com



# ISOVER METAC ROLL

A high performance quality thermal insulation roll designed for a wide range of applications where space is at a premium.



## Product Features

1. Thermal conductivity 0.031 / 0.034 W/mK
2. Excellent acoustic performance
3. Excellent fire safety - A1 fire rated
4. Vapour permeable breathable insulation
5. Improves energy performance and reduces heating & cooling costs
6. Easy to install. Friction fits between timber stud, joists and rafters with no need for additional fixings
7. Made from recycled glass. Minimal manufacturing and on-site wastage. Low carbon footprint at manufacture and during transport



ACOUSTIC INSULATION



FIRE PROTECTION



MOISTURE CONTROL



BREATHABLE



MINIMAL WASTE



EASY TO TRANSPORT



ENERGY SAVINGS



EASY TO INSTALL



RECYCLED GLASS



PROTECTED PLANET



THERMAL INSULATION



EUROCLASS A1 FIRE RATING

W/mK 0.034-0.031

Product	Lambda Value	Product Code	Thickness (mm)	Width (mm)	Length (mm)	Roll Area (m <sup>2</sup> )	Rolls Per Pallet
Isover Metac	0.034	5200771695	50	1200	9300	11.16	18
Isover Metac	0.034	5200771696	100	1200	6000	7.20	18
Isover Metac	0.034	5200765192	150	1200	4100	4.92	18
Isover Metac	0.034	5200771700	150	3 × 400	4100	4.92	18
Isover Metac	0.034	5200771705	180	1200	3400	4.08	18
Isover Metac	0.034	5200771708	180	3 × 400	3400	4.08	18
Isover Metac	0.034	5200765193	220	1200	2900	3.48	18
Isover Metac	0.034	5200852270	220	3 × 400	2900	3.48	18
Isover Metac	0.031	5200899796	90	1200	5400	6.24	18
Isover Metac	0.031	5200841098	140	2 × 600	3500	4.2	18
Isover Metac	0.031	5200861944	140	3 × 400	3400	4.08	18
Isover Metac	0.031	5200868092	180	1250	2700	3.375	18
Isover Metac	0.031	5200861944	140	3 × 400	3400	4.08	18
Isover Metac	0.031	5200868092	180	1250	2700	3.375	18

Any values are indicative, please contact our technical support team for values pertaining to your project.





# ISOVER

## COMFORT 35

For use in Pitched roof rafters • Pitched roof attics  
• Walls insulated cavities

A high performance roll designed for topping up attic floor insulation  
- easy to install, can be simply rolled out over existing insulation.



W/mK 0.035

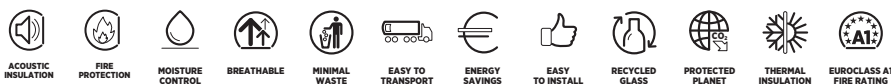
Product	Order Code	Thickness (mm)	Width (mm)	Length (mm)	Pack Area (m <sup>2</sup> )	Pack Per Pallet
Comfort 35 G3 Touch	5200542536	140	1200	3400	4.08	24

# ISOVER

## ACOUSTIC ROLL

For use in Walls partition • Walls external & separating  
• Floors floating under/between

A mineral wool roll providing high levels of acoustic insulation in partitions, walls and floors to meet acoustic requirements in domestic and non-residential applications.



W/mK 0.036

Product	Order Code	Thickness (mm)	Width (mm)	Length (mm)	Pack Area (m <sup>2</sup> )	Pack Per Pallet
Acoustic Roll G3 Touch	5200625536	25	1200	20000	24.00	24
Acoustic Roll G3 Touch	5200625538	50	1200	12000	14.40	24
Acoustic Roll G3 Touch	5200625546	70	1200	9000	10.80	24
Acoustic Roll (Combi) G3 Touch	5200625540	100	1160	6500	7.54	24
Acoustic Roll (Combi) G3 Touch	5200625542	150	1160	4500	5.22	24
Acoustic Roll (Combi) G3 Touch	5200625544	200	1160	2700	3.13	24



# CASE STUDY

## Isover Armstrong timber engineering, Noonan construction, Vale Road Site Arklow (Thermal Walls)

### Project Overview

**Building Owner:** Vale Road Site Arklow (Meadowvale)

**Architect:** Meehan Levins Architects, River Walk,  
Arklow, Co. Wicklow

**Main Contractor:** Noonan Construction

**Sub-Contractor:** Armstrong Timber Engineering

**Isover Products Used:** Comfort 35 140mm



### Project Background

Meadowvale is a development of 301 three-bedroom semi-detached houses in Arklow Co Wicklow.

### Developer

Noonan Construction, established in 1969, is focused on quality of build and service in both the Residential and Commercial sectors. In addition to this long and wide experience they are committed to adopting the latest sustainable building techniques. Supporting their home buyers through the process and offering choice in finishes is a key part of their service.

### The Challenge

Chose Armstrong due to ongoing relationship and existing workflows. Modular timber frame build with Comfort 35 140mm used in External walls. Achieve thermal requirements as well as address workflow requirements for external walls. Speed is a key consideration as well as reliability/consistency of insulation material being installed into the external wall. Comfort 35 offers a consistency which is a requirement for factory kit construction. Deliver an A-rated home with excellent thermal performance in the external walls. NZEB compliant external wall achieved using Comfort 35.

As always, health and safety has been an important consideration for the project as well as sustainability.

### The Approach

Isover supported the project by providing calculations to ensure product would meet regulatory and site requirements. Technical and on-site application support was also provided to ensure that the advice and approach taken met the requirements of those working on the project.

As part of this, an understanding of project work flows to ensure adoption of Comfort 35 in a factory process was undertaken and this would yield efficiencies in construction. Isover systems were enthusiastically received and were found to be easy to use whilst providing the high level of thermal performance required.

Moreover, Isover helped with workflow as the sales team was able to offer ongoing support to ensure the project was delivered to a high spec and within the desired timelines. The end result was a high performance home that delivered on government and project stakeholder requirements.





**Isover Ireland**

Unit 4, Kilcarbery Business Park,  
Nangor Road, Dublin 22  
D22 R2Y7  
Telephone: 01 629 8400  
Email: [info@isover.ie](mailto:info@isover.ie)  
[www.isover.ie](http://www.isover.ie)



@SaintGobainGroup



Saint-Gobain



@saintgobain

Gyproc, Gypframe and Glasroc are all registered trade names of Saint-Gobain Construction Products (Irl) Limited. Isover is a registered trade name of Saint-Gobain. Saint-Gobain Construction Products (Irl) Limited reserves the right to revise product specifications without notice. The information in this document was correct to the best of our knowledge at the time of publication. It is the user's responsibility to ensure that it remains current prior to use. The information in this document is for guidance only and should not be read in isolation. Users should read and familiarise themselves with all the information contained in this document and ensure that they are fully conversant with the products and systems being used, before subsequent specification or installation. For a comprehensive and up-to-date library of information visit the Isover website at: [www.isover.ie](http://www.isover.ie)