

# Creating Intelligent Environments

Insulation Solutions Guide



Has anyone ever put more thought into insulation?



# Our world has changed.

The way we live is affecting our planet more than ever, and the buildings we construct need to address this – now.





It's time to think carefully about our future. All our futures. What we do today will have an immeasurable impact on tomorrow. And if we do the right thing, we'll all benefit. As will the next generation.

Superglass may be a brand with 40 years behind it, but our thinking is light years ahead. We create intelligent insulation solutions that enable comfortable living and working environments. And that protect our global environment by saving energy and using recycled glass.

### A global leader

We may still be based in Scotland, but we're part of global leader in roofing, waterproofing and insulation TECHNOMICOL – a business with over 6500 people, 51 manufacturing plants and offices in 79 countries, dedicated to researching and investing in new energy saving solutions to improve the lives of millions of people worldwide.

So while insulation is what we make, what we contribute makes an important difference to our planet.



# The smartest way to use energy is to not use it at all.

That's the underlying principle behind Superglass thinking. It drives everything we do – from creating new ways of insulating to helping housebuilders make best use of resources.





We've long been innovators – bringing new ideas, products and thinking to the construction industry. We were first to introduce Multi-Roll to the market in the early 1990s, for example – the first glass mineral wool product with perforations so installers could choose their required width – and more recently, developed blown solutions to meet the huge surge in demand for retrofit cavity wall and loft insulation.

## Europe's most advanced manufacturing plant

Our plant in Stirling was transformed by a £9.2million investment in 2013, followed by the opening of the Superglass Innovation Centre in 2015. And when we became part of global building materials group TECHNOMICOL, it received a further £37million investment.

But Superglass is more than just a manufacturer of insulation. We're technology pioneers – able to use our expertise in glass chemistry for the benefit of everyone, now and for the future.

# Has anyone ever put more thought into insulation?

In terms of safeguarding the future of our planet, Superglass is in a unique position.





Our science can save energy. Our ideas can improve buildings. Our innovations can make a difference – and by choosing Superglass, so will you.

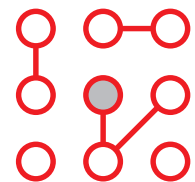
Our glass mineral wool is made from up to 84% recycled glass, reducing waste disposal and saving valuable resources that would otherwise go to landfill.

It has excellent thermal and acoustic performance, meeting every regulation easily – including fire protection with a reaction to Fire Classification A1. It's extremely easy and efficient to install, making it supremely cost-effective too. And it's breathable, reducing the risk of condensation in the building – plus you can always rely on it to consistently match its stated performance levels.

## Helping you create Intelligent Environments

Most of all though, it allows us to optimise living and working environments, and make energy more affordable – while saving housebuilders time and money, so they can build more homes faster to meet today's demand and tomorrow's energy needs.

We call them Intelligent Environments and they're made possible by our latest generation insulation products, using our innovative new approach to glass chemistry: THINKTECH, smarter technology for every home.



THINKTECH

# The smart thinking behind the new generation Superglass.

Every Superglass product now contains THINKTECH. But THINKTECH isn't just some clever new ingredient. It's a whole new approach that's improved every aspect of our insulation.





Together with a Zero Ozone Depletion Potential (ODP), this has all enabled Superglass products to easily achieve a Generic BRE Green Guide rating of A+.



Superglass is a member of the Supply Chain Sustainability School, an industry led organisation at the forefront of sustainability, strategy and best practice.

THINKTECH takes recycled glass and improved fibre technology and combines them with advanced glass chemistry expertise to produce our best-performing insulation ever. Our latest generation products look better, smell better, feel better, compress further and recover faster – thanks to new state of the art furnace and advanced processing equipment.

## Perfect with renewable energy systems

THINKTECH recognises that insulation is just part of the environmental equation too.

However many homes are built with the latest ultra-efficient renewable energy technologies, those expensive systems are of little value if the energy they produce simply escapes into the atmosphere.

That's where Superglass and THINKTECH come in, wrapping the building envelope to maximise energy efficiency and minimise carbon emissions and household bills.



# Supporting you as well as our planet.

THINKTECH is just part of our total  
commitment to energy preservation.

But we're equally committed to giving you  
the support you need, whatever your role  
and wherever you use our products.



Our products, bespoke or standard, carry all the accreditations you'd expect them to, including Declaration of Performance (DOPs), the reassurance of British Board of Agrément Certification (BBA) and CE Marks, while for separating walls our Robust Detail solutions provide a simple and reliable route to compliance with the necessary Building Regulations.



We're renowned for the highest levels of customer support and service, and proud of our close relationships throughout the supply chain – especially with specifiers.

Our free specification service combines the skills of our external Specification team with our dedicated in-house Technical team to provide U-Value calculations and Dew Point analysis. We also offer industry-leading Building Information Modelling (BIM) and Standard Assessment Procedure (SAP) guidance, with all our BIM objects downloadable from BIMstore.co.uk or directly from our website.

## Whatever you need

Our team will help you find the best solution for your application. And if that requires a bespoke product, they can design and produce it to your exact requirements.

The Superglass Technical Team can help with:

- U-Value calculations
- Condensation risk analysis
- Building Regulations compliance
- Application and installation guidance
- Environmental and sustainability credentials

Call them today on **0808 1645 134**  
or email [technical@superglass.co.uk](mailto:technical@superglass.co.uk)



Superglass products are manufactured in accordance with:

- ISO 14001: 2015 - Environmental Management Systems (EMS).
- ISO 9001: 2008 - Quality Management Systems (QMS).
- BS EN 13162:2012(+A1:2015) Thermal insulation products for buildings - Factory made mineral wool (MW) products.
- BS EN 13172:2012 Thermal insulation products - Evaluation of conformity.
- BS EN 14064-1: 2010 Thermal insulation products for buildings.
- In-situ formed loose-fill mineral wool (MW) products.

# Building Regulations and Standards.

## **Building Regulations and Standards have been introduced in order to protect the health, safety and welfare of people in and around buildings, and to improve the energy efficiency of buildings.**

In England the current regulations, made under Building Act 1984, are the Building Regulations 2010. The Regulations, which have been amended several times since they came into force, set out the processes for the control of building work. Schedule 1 to the Regulations sets out the standards for building work in 16 parts, from A to R. Guidance on meeting those standards is contained in a number of Approved Documents.

Building work in Wales is also subject to the Building Regulations 2010 and the same basic structure of Regulations, Requirements and Approved Documents. However, on 31st December 2011, control of Building Regulations in Wales was transferred to the Welsh Government. The Regulations in Wales are therefore slowly diverging from those in England as changes made to the Regulations in England from 2012 onward do not apply to Wales, while the Welsh Government has issued amended Requirements.

In Scotland the Building (Scotland) Act gives ministers the power to make building regulations. The current regulations, the Building (Scotland) Regulations 2004, set out the processes of building control and, in Schedule 5 to Regulation 9, define the functional standards for design and construction. These Technical Standards, together with associated technical guidance, are set out in two technical handbooks, one for domestic and one for non-domestic buildings.

Each jurisdiction has comparable standards for the main performance requirements for new buildings.

### **Fire (England, Wales, Part B; Scotland, section 2)**

The overriding aim of fire safety requirements is to ensure building occupants have adequate warning in the event of a fire, and are able to escape safely. The standards address means of escape, internal and external spread of fire, structural integrity and access and facilities for fire services. The provisions are not directly concerned with the protection of property.

### **Noise (England, Wales, Part E; Scotland, section 5)**

Intrusive noise transmitted between different parts of buildings can affect the wellbeing of building occupants, as well as being a nuisance. Building Regulations and Standards require building elements which separate dwellings – party walls and party floors – to resist the passage of airborne sound, and, in the case of party floors, resist the transmission of impact sound.

There are two routes to demonstrating compliance: pre-completion performance testing, which allows the use of any solution, but brings a risk that poor workmanship could result in failure. Alternatively, it is possible to avoid pre-completion testing by using Robust Details which have been tested and accredited by Robust Details Ltd (see Superglass Robust Details Solutions on pages 32–34).

### **Condensation (England, Wales, Parts C and F; Scotland, section 3)**

Surface and interstitial condensation can affect the well-being of building occupants and damage the building fabric. Preventing condensation requires well-insulated fabric and adequate ventilation provision to extract moisture at the point of generation.

### **Energy efficiency (England, Wales, Part L; Scotland, section 6)**

The UK is committed under the Climate Change Act to reduce carbon dioxide emissions to less than 80% of 1995 levels by 2050. As the operation of buildings accounts for more than 30% of the UK's CO<sub>2</sub> emissions, it is vital that new buildings are designed to be energy efficient and minimise emissions.

For new dwellings, the rate of carbon dioxide emissions from the dwelling (known as the Dwelling Emission Rate, DER) must not exceed the Target Emission Rate (TER), which is based on the emissions from a notional dwelling. Both the DER and TER are calculated using Standard Assessment Procedure (SAP). The results of DER and TER calculations must be submitted to the building control body before and after construction.

In England there is a further compliance test: the fabric energy efficiency of the dwelling – the DFEE – must not exceed the Target Fabric Energy Efficiency, which is based on the fabric energy efficiency of the notional dwelling.

In England, Wales and Scotland the U-Values of building elements must not exceed specified limits, and the building services must also meet minimum performance standards.

## Definitions

**Fabric Energy Efficiency (FEE):** a measure of the amount of energy required to heat a dwelling, calculated from fabric and ventilation heat loss, thermal mass, solar gains and heat gains from equipment and people in the dwelling.

**Notional dwelling:** a theoretical dwelling used to establish performance standards for proposed dwellings. The notional dwelling has the same dimensions as the proposed dwelling, but the performance of the building fabric and services are taken from standard specifications. In England and in Wales there is only one notional dwelling specification based on gas-fired heating. In Scotland there are five notional dwelling ‘packages’, each matched to the heating type of the proposed dwelling.

**Psi-value:** a measure of the rate of heat transfer through junctions between building elements (e.g. wall to floor or wall to eaves) and at the perimeter of openings (e.g. window lintels, jambs and sills); they are expressed in W/mK. The use of accredited construction details – which have lower psi-values – can substantially reduce heat loss at junctions.

**Robust Details:** construction details which, in testing, have been shown to provide excellent levels of sound insulation. Each detail is accompanied by a check list which must be completed during construction.

**Standard Assessment Procedure (SAP):** the Government’s approved methodology for assessing the energy efficiency and CO<sub>2</sub> omission rates of dwellings. It is used for demonstrating compliance with Building Regulations and Standards, and for issuing Energy Performance Certificates (EPCs) for new

dwellings. SAP is a comparative tool which considers fabric heat loss (based on U-Values and psi-values), ventilation heat loss, solar gain, the efficiency of building services, the use of renewables and either the cost or the carbon dioxide emission factor of fuels.

**Target Emission Rate (TER):** the maximum permitted emission rate for the dwelling, calculated from the emission rate of the notional dwelling. In England and Wales the rate of emissions for space and water heating in the notional dwelling is adjusted to allow for fuels with a higher emission rate than mains gas. In Scotland, the TER is simply the emission rate for the notional dwelling.

**Target Fabric Energy Efficiency (TFEE):** the maximum permitted fabric energy efficiency for a dwelling. It is the fabric energy efficiency of the notional dwelling, increased by 15%. Applicable only to new dwellings in England.

**U-Value:** a U-Value measures the rate of heat transfer through an element of the building fabric (floor, wall, roof, window or door); they are expressed in W/m<sup>2</sup>K. Better insulated elements will have lower U-Values. The Superglass Technical Team can supply free U-Value calculations on request, email: [technical@superglass.co.uk](mailto:technical@superglass.co.uk).

## Product applications:

# The right insulation in the right place.

Whatever the structure, whatever you're looking to achieve, **Superglass has the product you need.** Our Teamworks ethos means we'll work closely with you, using our expertise to make sure you also get the most effective solution for your building.





## Roofs

(See Pages 43 – 50)

Roof constructions can vary enormously, as can the materials used. From simple loft insulation to options for timber frame, warm roof applications and metal clad roofs. Our range can meet every requirement.



## Internal partition walls

(See Pages 39 – 42)

Internal partitions can follow a variety of construction methods: including metal stud or simple timber stud partitions. At Superglass, you'll find insulation options to suit each.



## External walls

(See Pages 17 – 30)

Superglass has a wide range of glass wool insulation products to suit different types of wall constructions – masonry, timber frame and metal clad.



## Floors

(See Pages 51 – 54)

Insulating floors correctly is crucial, not just from the perspective of keeping heat in but also to limit sound intrusion. Whether the floor is a simple suspended timber design for ground floors or an internal floor, Superglass can provide the ideal insulation.



## Party & Separating walls

(See Pages 31 – 36)

Whether of timber frame or masonry construction, you'll find insulation options ideal for meeting the relevant regulations – and we also offer Robust Details solutions designed to make doing that even simpler.

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# External masonry walls.

Built in solutions.



# Glass mineral wool.

## The perfect solution for external masonry walls.

About a third of all the heat lost in an uninsulated home escapes through the walls, as heat will always flow from a warm area to a cold one. In winter, the colder it is outside, the faster heat from your home will escape into the surrounding air.

In domestic dwellings built after 1920, it is highly likely that the external walls are made of two masonry layers with a cavity in between. Cavity wall insulation fills that gap, keeping the warmth in to save energy.

To assist in Buildings Regulation compliance, our recommended masonry cavity wall solution is fully filling the cavity with Superglass insulation.

This not only provides the best U-Value to wall width ratio, but also make good economic sense. Even with dense concrete blocks it is possible to achieve very high thermal performance in a manageable wall width.

The systems shown on the following pages do not require cavity fire barriers\*, and full fill systems can be installed in all types of buildings, as detailed in their British Board of Agrément (BBA) Certificates. With formal guarantees against liquid water penetration and a long history of use, they offer peace of mind for the specifier, builder and client alike.

Our technical team will help you find **the best solution** for your application, call **0808 1645 134**.



### Why use Superglass Superwall cavity wall batts in full fill masonry cavity wall applications over rigid insulation boards?

#### Reliable on-site performance

- The flexible properties of Superglass Superwall cavity batts allow the insulation to follow the uneven surface of the cavity, making it more effective at restricting air movement within the cavity and removing the risk of heat loss through convection.
- The thermal performance of Superwall cavity batts is not reliant on the reflective properties of foil facings in low emissivity cavities, which can be compromised by dulling of the reflective surface caused by mortar dust and excessive air movement.

#### Quick and easy on-site installation

- **No requirement for retaining discs**  
Superwall cavity batts negate the need for retaining discs, saving on material costs and installation time.
- **No requirement for cavity fire barriers\***  
Superwall cavity batts helps minimise flanking sound transmission and prevent the spread of fire within the external wall cavity.
- **Robust product**  
Superwall cavity batts are able to withstand the demands of on-site installation, improving in-situ performance and reducing on-site waste.

#### Cost efficient solution

- The installed cost of Superglass full fill solutions is significantly lower compared to a partial fill system using rigid foam boards.

\*Reference to current Building Regulations may be required.

# Superwall Cavity Wall Batts.

Full Fill Built-In solutions.

**Superglass Superwall** products are British Board of Agrément (BBA) approved, non-combustible and water repellent glass mineral wool insulation cavity wall batts. These flexible batts are supplied at 455mm wide to allow easy installation between standard vertical wall tie spacings and minimum on-site cutting and waste.

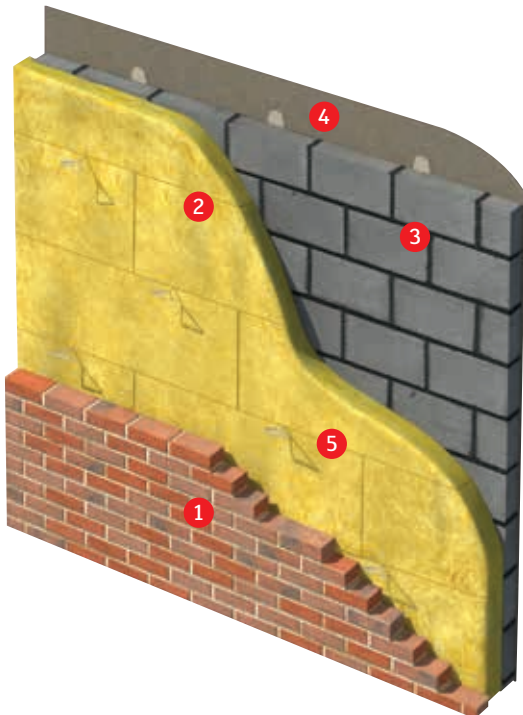
## Application

Superwall is designed to provide thermal insulation in full fill external masonry cavity walls up to 25m in height. Superwall is BBA approved for use in all UK exposure zones (subject to conditions detailed in the BBA Certificate and NHBC Standards).

Note: can also be used in partial-fill applications. For more information contact the Superglass Technical Team.

## Moisture Resistance

Tests by the BBA confirm that Superwall will not transmit water to the inner leaf. Nor will it transmit moisture by capillary action across the cavity or from below damp proof course level. Please refer to the BBA Certificate for more information.



Thermal Insulation



## Superglass Superwall for external cavity walls

The tables on the adjacent page show typical U-Values when combining different Superwall products with a variety of commonly used inner and outer leaves.



Superglass Products	Thermal conductivity
Superwall 32	0.032 W/mK
Superwall 34	0.034 W/mK
Superwall 36	0.036 W/mK

## Typical Application

External masonry cavity walls

- 1 Outer leaf - brickwork or blockwork
- 2 **Superglass Superwall**
- 3 Inner leaf - brickwork or blockwork
- 4 12.5mm plasterboard on dabs
- 5 Wall ties

Typical U-Values (W/m<sup>2</sup>K) achieved when fully filling the wall cavity with Superglass Superwall cavity wall batts.

## Brick and block construction

Cavity width & insulation thickness	Outer Leaf Bricks	102.5mm	102.5mm	102.5mm Brick	102.5mm
	85mm Superwall 36	0.34	0.33	0.29	0.28
	85mm Superwall 32	0.31	0.30	0.27	0.26
	100mm Superwall 36	0.30	0.29	0.26	0.25
	100mm Superwall 34	0.28	0.27	0.25	0.24
	100mm Superwall 32	0.27	0.26	0.24	0.23
	125mm Superwall 36	0.25	0.24	0.22	0.21
	125mm Superwall 34	0.23	0.23	0.21	0.20
	125mm Superwall 32	0.22	0.22	0.20	0.19
	150mm Superwall 36	0.21	0.20	0.19	0.19
	150mm Superwall 34	0.20	0.20	0.18	0.18
	150mm Superwall 32	0.19	0.19	0.17	0.17
	200mm Superwall 36 (2x100mm)	0.16	0.16	0.15	0.15
	200mm Superwall 34 (2x100mm)	0.15	0.15	0.14	0.14
	200mm Superwall 32 (2x100mm)	0.15	0.14	0.14	0.13
Inner Leaf Blocks	100mm Dense Aggregate (1.13W/mK)	100mm Medium Dense (0.45W/mK)	100mm Standard Aircrete (0.15W/mK)	100mm Lightweight Aircrete (0.11W/mK)	
Plaster Dabs	15mm	15mm	15mm	15mm	
Plasterboard	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	
Plaster Skim	3mm	3mm	3mm	3mm	

## Block and block construction

Cavity width & insulation thickness	Render	20mm Sand & Cement	20mm Sand & Cement	20mm Sand & Cement	20mm Sand & Cement
	Outer Leaf Blocks	100mm Dense Aggregate (1.13W/mK)	100mm Medium Dense (0.45W/mK)	100mm Standard Aircrete (0.15W/mK)	100mm Lightweight Aircrete (0.11W/mK)
	85mm Superwall 36	0.34	0.32	0.26	0.24
	85mm Superwall 32	0.31	0.29	0.24	0.22
	100mm Superwall 36	0.30	0.28	0.23	0.22
	100mm Superwall 34	0.29	0.27	0.22	0.21
	100mm Superwall 32	0.27	0.25	0.22	0.20
	125mm Superwall 36	0.25	0.23	0.20	0.19
	125mm Superwall 34	0.24	0.22	0.19	0.18
	125mm Superwall 32	0.22	0.21	0.18	0.17
	150mm Superwall 36	0.21	0.20	0.18	0.17
	150mm Superwall 34	0.20	0.19	0.17	0.16
	150mm Superwall 32	0.19	0.18	0.16	0.15
	200mm Superwall 36 (2x100mm)	0.16	0.16	0.14	0.13
	200mm Superwall 34 (2x100mm)	0.16	0.15	0.14	0.13
200mm Superwall 32 (2x100mm)	0.15	0.14	0.13	0.12	
Inner Leaf Blocks	100mm Dense Aggregate (1.13W/mK)	100mm Medium Dense (0.45W/mK)	100mm Standard Aircrete (0.15W/mK)	100mm Lightweight Aircrete (0.11W/mK)	
Plaster Dabs	15mm	15mm	15mm	15mm	
Plasterboard	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	
Plaster Skim	3mm	3mm	3mm	3mm	



# External masonry walls.

Blown solution for new build installations.

Superglass  
Your insulation team



Superglass  
Superwhite [34]  
Blown Fibre Cavity Wall Insulation

# Superwhite 34.

## Blown Cavity Wall Insulation. For a smarter way to build.

**Superglass Superwhite 34** is more than just superior glass mineral wool blown cavity wall insulation. It's a whole new way of working.

This product has been designed specifically for new build masonry cavity walls, using our 20 years' experience in the retro-fit blown insulation industry.

The solution has been meticulously tested and is fully BBA certified making it much easier to comply with current Building Regulations for new build dwellings. It is also backed by a 25 year guarantee.

**Superwhite 34 has a thermal conductivity of 0.034W/mK which is the lowest thermal performance for blown glass mineral wool insulation for masonry cavity walls in the UK. It's also declared to Lambda 90/90, so you can be sure it delivers all the thermal performance you need.**



Installed internally after the walls are built, Superwhite 34 will help make the most of the on-site team's skills. The Superwhite 34 full fill solution is proven to give a superior thermal performance whilst facilitating a highly efficient build process. It also minimises potential weather delays and reduces on-site waste.

We also recommend Superwhite 34 for party walls\*, giving the added advantage of just one product and one installation process on-site, which means less room for error, less management needed and a superior level of insulation throughout.

\*A Superwhite 34 Party Wall Robust Details solution is currently being developed.

1 Product

2 Applications

1 Price

=

Simple



# Superwhite 34 Blown Cavity Insulation.

Full Fill Blown solution.

## Application

**Superglass Superwhite 34** is designed to provide thermal insulation for new-build masonry cavity walls with a minimum cavity width of 90mm and up to 12m in height. It can be installed in buildings of 12m – 25m in height subject to a satisfactory inspection of the wall construction and installation approval by Superglass Insulation. The product is BBA approved for all UK exposure zones (subject to conditions detailed in the BBA Certificate and NHBC Standards).

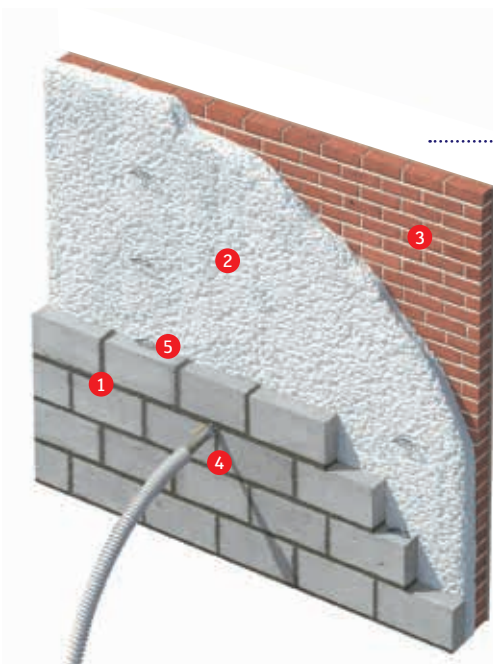
## Moisture Resistance

Tests by the BBA confirm that Superwhite 34 will not transmit water to the inner leaf, nor will it transmit moisture by capillary action across the cavity or from below damp proof course level. Please refer to the BBA Certificate for more information.

## Installation

Highly trained technicians working for UKAS approved companies install the product quickly and efficiently through the inner walls prior to the final internal finish being applied. Trained to assess buildings for suitability of installation, the technicians are inspected every 6 months as part of an on-going Approved Contractor Scheme. Superwhite 34 can be installed in any weather conditions minimising potentially costly on site delays. Only Superglass approved installers are allowed to install Superglass Superwhite 34.

**Contact the Superglass sales team on 01786 451170 for your nearest approved installer.**



Thermal Insulation



## Superglass Superwhite 34 for external masonry cavity walls

Tested to provide high levels of thermal performance when installed during the construction of new build masonry cavity walls. The tables on the adjacent page show typical U-Values when combining Superwhite 34 with a variety of commonly used inner and outer leaves.



Superglass Products	Thermal conductivity	Installed density
Superwhite 34	0.034 W/mK	25kg/m <sup>3</sup>

## Typical Application

External masonry cavity walls

- 1 Inner Leaf - brickwork or blockwork
- 2 **Superglass Superwhite 34**
- 3 Outer Leaf - brickwork or blockwork
- 4 Blowing machine nozzle
- 5 Wall ties

Typical U-Values (W/m<sup>2</sup>K) achieved when fully filling the cavity wall with Superwhite 34.

## Brick and block construction

Cavity width & insulation thickness	Outer Leaf Bricks	102.5mm	102.5mm	102.5mm	102.5mm
	95mm of Superwhite 34	0.30	0.29	0.26	0.25
	100mm of Superwhite 34	0.28	0.27	0.25	0.24
	105mm of Superwhite 34	0.27	0.26	0.24	0.23
	110mm of Superwhite 34	0.26	0.25	0.23	0.22
	115mm of Superwhite 34	0.25	0.24	0.22	0.22
	120mm of Superwhite 34	0.24	0.24	0.22	0.21
	125mm of Superwhite 34	0.23	0.23	0.21	0.20
	150mm of Superwhite 34	0.20	0.20	0.18	0.18
	165mm of Superwhite 34	0.18	0.18	0.17	0.16
	175mm of Superwhite 34	0.17	0.17	0.16	0.16
	190mm of Superwhite 34	0.16	0.16	0.15	0.15
	200mm of Superwhite 34	0.15	0.15	0.14	0.14
Inner Leaf Blocks	100mm Dense Aggregate (1.13W/mK)	100mm Medium Dense (0.45W/mK)	100mm Standard Aircrete (0.15W/mK)	100mm Lightweight Aircrete (0.11W/mK)	
Plaster Dabs	15mm	15mm	15mm	15mm	
Plasterboard	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	
Plaster Skim	3mm	3mm	3mm	3mm	

## Block and block construction

Cavity width & insulation thickness	Render	20mm Sand & Cement	20mm Sand & Cement	20mm Sand & Cement	20mm Sand & Cement
	Outer Leaf Blocks	100mm Dense Aggregate (1.13W/mK)	100mm Medium Dense (0.45W/mK)	100mm Standard Aircrete (0.15W/mK)	100mm Lightweight Aircrete (0.11W/mK)
	95mm of Superwhite 34	0.30	0.28	0.23	0.21
	100mm of Superwhite 34	0.29	0.27	0.22	0.21
	105mm of Superwhite 34	0.27	0.26	0.22	0.20
	110mm of Superwhite 34	0.26	0.25	0.21	0.20
	115mm of Superwhite 34	0.25	0.24	0.20	0.19
	120mm of Superwhite 34	0.24	0.23	0.20	0.19
	125mm of Superwhite 34	0.24	0.22	0.19	0.18
	150mm of Superwhite 34	0.20	0.19	0.17	0.16
	165mm of Superwhite 34	0.18	0.18	0.16	0.15
	175mm of Superwhite 34	0.18	0.17	0.15	0.14
	190mm of Superwhite 34	0.16	0.16	0.14	0.13
200mm of Superwhite 34	0.16	0.15	0.14	0.13	
Inner Leaf Blocks	100mm Dense Aggregate (1.13W/mK)	100mm Medium Dense (0.45W/mK)	100mm Standard Aircrete (0.15W/mK)	100mm Lightweight Aircrete (0.11W/mK)	
Plaster Dabs	15mm	15mm	15mm	15mm	
Plasterboard	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	12.5mm Standard (0.18W/mK)	
Plaster Skim	3mm	3mm	3mm	3mm	



# External masonry walls.

Blown solutions for retrofit installations.



# Superglass 40.

## Blown Cavity Wall Insulation for upgrading the thermal performance in older properties.

### Application

Superglass Superwhite 40 is designed specifically to provide thermal insulation for retrofit/existing masonry cavity walls with a minimum cavity width of 50mm and up to 12m in height. It may be installed in buildings of 12m – 25m in height subject to a satisfactory inspection of the wall construction and installation approval by Superglass Insulation.

Superwhite 40 is BBA approved for all UK exposure zones (subject to conditions detailed in the BBA Certificate and NHBC Standards).

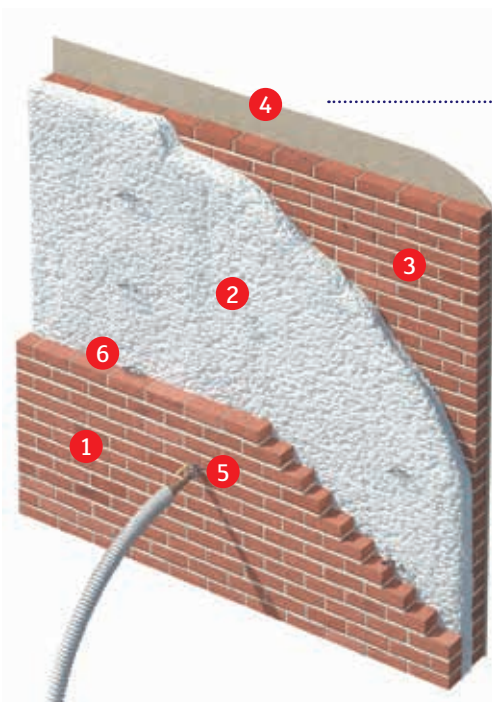
### Moisture Resistance

Tests by the BBA confirm that Superwhite 40 will not transmit water to the inner leaf, nor will it transmit moisture by capillary action across the cavity or from below damp proof course level. Please refer to the BBA Certificate for more information.

### Installation

Highly trained technicians working for UKAS approved companies install the product quickly and efficiently through the outer walls. Trained to assess buildings for suitability of installation, the technicians are inspected every 6 months as part of an on-going Approved Contractor Scheme. Only Superglass approved installers are allowed to install Superglass Superwhite 40.

Contact the Superglass sales team on 01786 451170 for your nearest approved installer.



### Thermal Insulation

#### Superglass Superwhite 40 in external cavity walls

High performance, non-combustible glass mineral wool blown cavity wall insulation. The product is British Board of Agrément (BBA) certified and Cavity Insulation Guarantee Agency (CIGA) approved. Superwhite 40 has a 25 year guarantee and is inspected under the BBA Surveillance Scheme for cavity wall insulation.



Superglass Products	Thermal conductivity	Installed density
Superwhite 40	0.040 W/mk	18kg/m <sup>3</sup>

### Typical Application

External masonry cavity walls

- 1 Outer leaf - existing brickwork
- 2 Superglass Superwhite 40
- 3 Inner leaf - existing brickwork or blockwork
- 4 Internal finish
- 5 Blowing machine nozzle
- 6 Wall ties





# External timber frame walls.

# Superglass Timber & Rafter Insulation.

## Superior thermal performance in timber frame walls.

Today's modern timber frame structures are precision-engineered, strong and durable, comprising of a build method which relies on timber frame as a basic means of structural support; carrying the loads imposed by the floors and roofs, before transmitting them to the foundations.

Timber frame currently accounts for around 25% of new homes in the UK and over 80% of all new homes built in Scotland use this method. Around 75% of self-builders use timber frame construction as their primary build method. This build type is utilised by every sector of the construction industry and is very popular for hotels and student accommodation. As with all forms of structural timber, timber frame has superb environmental credentials, as well as being quick and easy to construct.

In addition to providing installers with a flexible, time efficient insulation solution, Superglass timber frame products deliver superior levels of thermal and acoustic performance time after time. This makes Superglass insulation the natural partner for this growing method of construction.

Thermal Insulation

### Superglass Timber & Rafter Rolls/Batts for timber frame walls

**Superglass Timber & Rafter Roll/Batts** are lightweight, non-combustible glass mineral wool insulation products. The flexible rolls and batts are manufactured to allow easy installation between common stud spacings and minimum on-site cutting and waste. The products are self-supporting by friction fitting between timber studs, which helps to eliminate air gaps.



Superglass Products	Thermal conductivity
Timber & Rafter Roll or Batt 32	0.032 W/mK
Timber & Rafter Roll or Batt 35	0.035 W/mK
Timber & Rafter Roll or Batt 40	0.040 W/mK

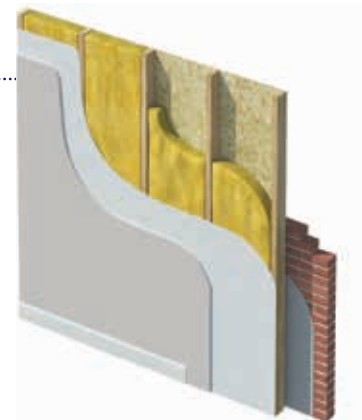


Superglass are Gold members of the Structural Timber Association, the UK's foremost timber organisation, leading the industry on quality, health & safety, education and technical knowledge.

# Typical U-Values for timber frame wall applications.

## Standard Breather Membrane

- 102.5mm brick
- 50mm unvented cavity (0.18m<sup>2</sup>K/W)
- Standard breather membrane
- 9mm OSB
- **Timber studs (600mm centres) with Superglass Timber & Rafter Roll or Batt**
- Standard vapour barrier
- 12.5mm standard plasterboard (0.18W/mK)
- 3mm plaster skim

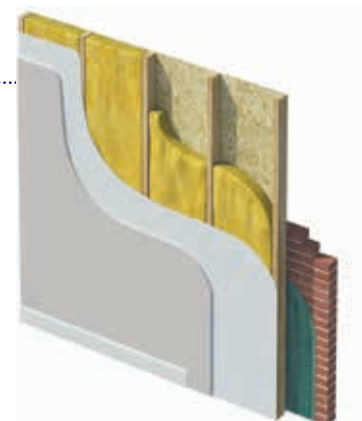


Insulation and stud thickness (mm)	Superglass insulation	U-Value Achieved (W/m <sup>2</sup> K)
230	Timber & Rafter Roll or Batt 32 (140+90mm)	0.18
230	Timber & Rafter Roll or Batt 35 (140+90mm)	0.18
200	Timber & Rafter Batt 32 (2x100mm)	0.20
230	Timber & Rafter Roll or Batt 40 (140+90mm)	0.20
140	Timber & Rafter Roll or Batt 32	0.27
140	Timber & Rafter Roll or Batt 35	0.28
140	Timber & Rafter Roll or Batt 40	0.30
100	Timber & Rafter Batt 32	0.35

Bridging Factor for timber studs 15%.

## Reflective Breather Membrane

- 102.5mm brick
- 50mm unvented low-emmissivity cavity (0.81m<sup>2</sup>K/W)
- Reflective breather membrane
- 9mm OSB
- **Timber studs (600mm centres) with Superglass Timber & Rafter Roll or Batt**
- Standard vapour barrier
- 12.5mm standard plasterboard (0.18W/mK)
- 3mm plaster skim

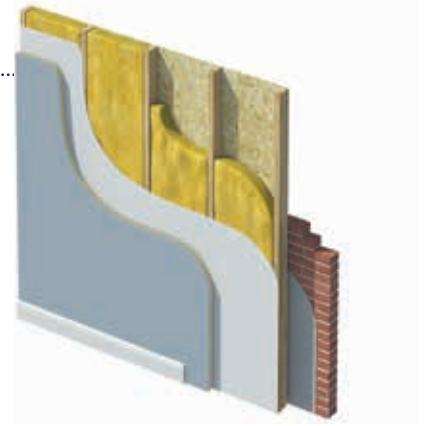


Insulation and stud thickness (mm)	Superglass insulation	U-Value Achieved (W/m <sup>2</sup> K)
230	Timber & Rafter Roll or Batt 32 (140+90mm)	0.16
230	Timber & Rafter Roll or Batt 35 (140+90mm)	0.16
200	Timber & Rafter Batt 32 (2x100mm)	0.17
230	Timber & Rafter Roll or Batt 40 (140+90mm)	0.18
140	Timber & Rafter Roll or Batt 32	0.22
140	Timber & Rafter Roll or Batt 35	0.23
140	Timber & Rafter Roll or Batt 40	0.25
100	Timber & Rafter Batt 32	0.28
90	Timber & Rafter Roll or Batt 32	0.30

Bridging Factor for timber studs 15%.

## Standard Breather Membrane & Plasterboard Laminate

- 102.5mm brick
- 50mm unvented cavity (0.18m<sup>2</sup>K/W)
- Standard breather membrane
- 9mm OSB
- **Timber studs (600mm centres) with Superglass Timber & Rafter Roll or Batt**
- Standard vapour barrier
- 24.5mm plasterboard laminate (0.022 W/mK)
- 3mm plaster skim

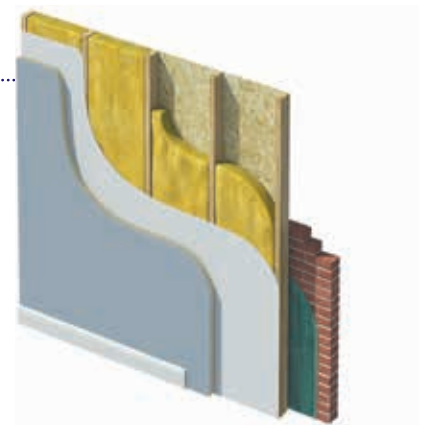


Insulation and stud thickness (mm)	Superglass insulation	U-Value Achieved (W/m <sup>2</sup> K)
230	Timber & Rafter Roll or Batt 32 (140+90mm)	0.15
230	Timber & Rafter Roll or Batt 35 (140+90mm)	0.16
230	Timber & Rafter Roll or Batt 40 (140+90mm)	0.17
200	Timber & Rafter Batt 32 (2x100mm)	0.17
140	Timber & Rafter Roll or Batt 32	0.22
140	Timber & Rafter Roll or Batt 35	0.23
140	Timber & Rafter Roll or Batt 40	0.25
100	Timber & Rafter Batt 32	0.28
90	Timber & Rafter Roll or Batt 32	0.30
90	Timber & Rafter Roll or Batt 35	0.31
90	Timber & Rafter Roll or Batt 40	0.33

Bridging Factor for timber studs 15%.

## Reflective Breather Membrane & Plasterboard Laminate

- 102.5mm brick
- 50mm unvented low-emmissivity cavity (0.81 m<sup>2</sup>K/W)
- Reflective breather membrane
- 9mm OSB
- **Timber studs (600mm centres) with Superglass Timber & Rafter Roll or Batt**
- Standard vapour barrier
- 24.5mm plasterboard laminate (0.022 W/mK)
- 3mm plaster skim



Insulation and stud thickness (mm)	Superglass insulation	U-Value Achieved (W/m <sup>2</sup> K)
230	Timber & Rafter Roll or Batt 32 (140+90mm)	0.14
230	Timber & Rafter Roll or Batt 35 (140+90mm)	0.15
200	Timber & Rafter Batt 32 (2x100mm)	0.15
230	Timber & Rafter Roll or Batt 40 (140+90mm)	0.16
140	Timber & Rafter Roll or Batt 32	0.19
140	Timber & Rafter Roll or Batt 35	0.20
140	Timber & Rafter Roll or Batt 40	0.21
100	Timber & Rafter Batt 32	0.23
90	Timber & Rafter Roll or Batt 32	0.25
90	Timber & Rafter Roll or Batt 35	0.26
90	Timber & Rafter Roll or Batt 40	0.27

Bridging Factor for timber studs 15%.



# Masonry party & separating walls.

Built-In solutions.

# Superglass Party Wall Insulation.

Achieving the correct levels of acoustic performance between adjoining dwellings.

## Party Wall function

While the division between adjoining properties has always been assumed to be an area of neutral heat loss, in that no transfer would take place between spaces at similar temperatures, research confirms that cavity party walls are subject to significant energy leakage.

Referred to as Thermal Bypass, the phenomenon is now taken into consideration within the current Building Regulations and potentially represents a major concern to housebuilders and designers in terms of achieving compliance for semi-detached and terraced properties. This is because on typical floor plans, where the footprint is quite narrow, the party wall presents a larger area than the front or back, to which the Building Regulations now assign a U-Value of 0.5 W/m<sup>2</sup>K unless specific action is taken to improve its performance.

However, once heat has escaped into the cavity it is carried upwards to the roof space; primarily due to wind drift at the junctions with the outside walls creating a stack effect. No developer will want to accept the onerous U-Value penalty, but filling the cavity could also compromise the acoustic insulation afforded by the original arrangement.

Fortunately Superglass Party Wall Insulation is not only a very good thermal insulant, but also offers excellent acoustic benefits.



Acoustic Insulation  Thermal Insulation 

### Superglass Party Wall Roll for masonry party walls

**Superglass Party Wall Roll** is a lightweight, non-combustible glass mineral wool insulation roll. The flexible roll is cut at 3x455mm widths to fit between standard wall tie spacings and to allow easy installation and minimum on-site cutting and waste.



Superglass Products	Thermal conductivity	Minimum density
Party Wall Roll	0.036 W/mK	18kg/m <sup>3</sup>

**Superglass Party Wall Roll** is designed to provide thermal and acoustic insulation and help provide a zero U-Value within masonry party or separating walls as described within Approved Document L1A (England & Wales) and Technical Handbook Section 6 (Scotland). Party Wall Roll may be used as a component in a number of Robust Details Solutions including proprietary systems E-WM-22, E-WM-23 & E-WM-27 (England & Wales) and V-WM-27 (Scotland). It may also be used in party wall systems which require on-site pre-completion (England & Wales) or post-completion (Scotland) acoustic testing.

## Application

When installed in the cavity of a masonry party or separating wall in conjunction with effective edge sealing, it will negate the effect of Thermal Bypass associated with such walls, whilst not diminishing their acoustic performance.

## robustdetails®

Robust Details Limited was formed in December 2003 in response to the housebuilding industry's request for an alternative to pre-completion sound testing, as a means of satisfying the sound insulation requirements of the Building Regulations. As Superglass insulation products have been specifically referenced in the approved Robust Details Handbook, they can be installed with the confidence that the chosen build method will satisfy current Building Regulations.

# Superglass Party Wall Roll.

For masonry party & separating walls.



## Built-In Solutions

- 1 Blockwork
- 2 Superglass Party Wall Roll
- 3 Wall ties
- 4 Plasterboard on dabs

Superglass Party Wall Roll can be used in the following Robust Details approved solutions:

Robust Details Solutions - England & Wales				
Robust Detail	Minimum Cavity Width (mm)	Block Type & Density (kg/m <sup>3</sup> )	Parge Coat Required	Wall Finish
E-WM-1	75	Dense Aggregate - 1850 to 2300	No	Wet Plaster
E-WM-2	75	Lightweight Aggregate - 1350 to 1600	No	Wet Plaster
E-WM-3	75	Dense Aggregate - 1850 to 2300	Yes	Render and gypsum-based board on dabs
E-WM-4	75	Lightweight Aggregate - 1350 to 1600	Yes	Render and gypsum-based board on dabs
E-WM-5	75	Besblock 'Star Performer' - 1528	Yes	Render and gypsum-based board on dabs
E-WM-6	75	Aircrete - 600 to 800	Yes	Render and gypsum-based board on dabs
E-WM-10	75	Aircrete - Thin Joint System - 600 to 800	Yes	Render and gypsum-based board on dabs
E-WM-11	100	Lightweight Aggregate - 1350 to 1600	Yes	Render and gypsum-based board on dabs
E-WM-12	75	Plasmor 'Aglite Ultima' - 1050	Yes	Render and gypsum-based board on dabs
E-WM-13	75	Aircrete - Thin Joint Untied System - 600 to 800	Yes	Render and gypsum-based board on dabs
E-WM-16	100	Dense Aggregate - 1850 to 2300	Yes	Render and gypsum-based board on dabs
E-WM-18	100	Dense Aggregate - 1850 to 2300	No	Wet Plaster
E-WM-19	100	Dense or Lightweight Aggregate - 1350 to 1600 or 1850 to 2300	Yes	Render and gypsum-based board on dabs
E-WM-21	100	Lightweight Aggregate - 1350 to 1600	No	Wet Plaster
E-WM-22	100	Lightweight Aggregate - 1350 to 1600 or Plasmor 'Aglite Ultima' - 1050	No	Gypsum-based board on dabs
E-WM-23	100	Aircrete - Standard and Thin Joint - 600 to 800	No	Gypsum-based board on dabs
E-WM-25	100	Porotherm - Thin Joint - n/a	Yes	Ecoparge gypsum-based board on dabs
E-WM-26	100	Besblock 'Star Performer' - 1528	No	Gypsum-based board on dabs
E-WM-27	75	Lightweight Aggregate - 1350 to 1600	No	Gypsum-based board on dabs
E-WM-29	75	Porotherm - Thin Joint - n/a	Yes	Ecoparge gypsum-based board on dabs

Robust Details Solutions - Scotland				
Robust Detail	Minimum Cavity Width (mm)	Block Type & Density (kg/m <sup>3</sup> )	Parge Coat Required	Wall Finish
V-WM-11	100	Lightweight Aggregate - 1350 to 1600	Yes	Render and gypsum-based board on dabs
V-WM-19	100	Dense - 1850 to 2300 or Lightweight Aggregate - 1350 to 1600	Yes	Render and gypsum-based board on dabs
V-WM-21	100	Lightweight Aggregate 1350 to 1600	No	Wet Plaster
V-WM-27	75	Lightweight Aggregate - 1350 to 1600	No	Gypsum-based board on dabs

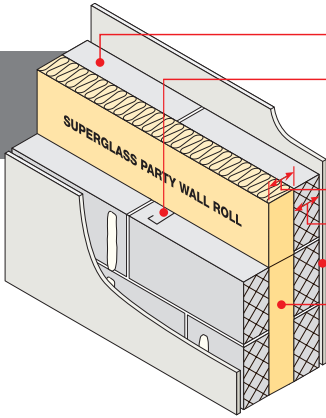


## Benefits of Robust Details® Solutions\*

- Compliant with standard 12.5mm plasterboard (nominal 8kg/m<sup>2</sup> density).
- No parge coat required.
- Party Wall Thermal Bypass -full fill solution to aid zero U-Value compliance.
- No requirement for pre/post-completion acoustic testing.
- Provides one insulation technique on-site when used in conjunction with Superglass cavity wall insulation.

## Recommended Robust Details Solutions\*

**Robust Detail  
E-WM-22**



**Block density:** 1350 to 1600 kg/m<sup>3</sup> or Plasmor Aglite Ultima 1050kg/m<sup>3</sup>

**Wall Ties:** Approved Document E 'Tie type A'

**Cavity width:** 100mm (min)

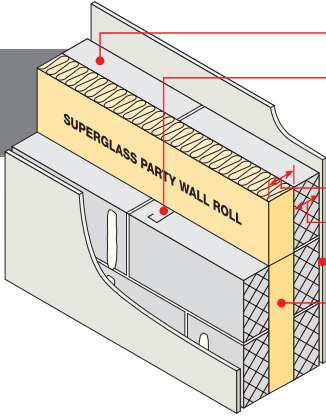
**Block thickness:** 100mm (min), each leaf

**Wall finish:** Gypsum based board mounted on dabs (nominal 10kg/m<sup>2</sup>)

**Insulation:** Superglass Party Wall Roll

**External flanking wall:** Masonry (both leaves) with 50mm (min) cavity - fully filled or partially filled with Superglass Cavity Wall Insulation.

**Robust Detail  
E-WM-23**



**Block density:** 1350 to 1600 kg/m<sup>3</sup>

**Wall Ties:** Approved Document E 'Tie type A'

**Cavity width:** 75mm (min)

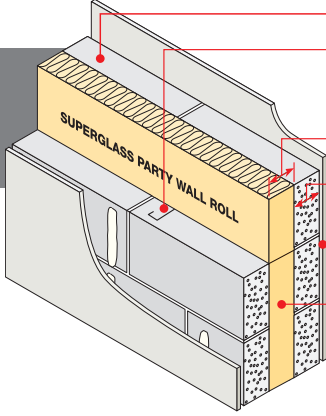
**Block thickness:** 100mm (min), each leaf

**Wall finish:** Gypsum based board mounted on dabs (nominal 8kg/m<sup>2</sup>)

**Insulation:** Superglass Party Wall Roll

**External flanking wall:** Masonry (both leaves) with 50mm (min) cavity - fully filled or partially filled with Superglass Cavity Wall Insulation.

**Robust Detail  
E-WM-27 &  
V-WM-27**



**Block density:** 600 to 800kg/m<sup>3</sup>

**Wall Ties:** Approved Document E 'Tie type A'. For thin joint, wall ties must be Ancon Building Products Staifix HRT4 or Clan PWT4 at no more than 2.5 ties per square metre

**Cavity width:** 100mm (min)

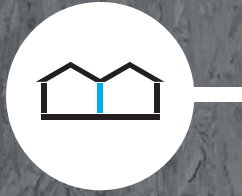
**Block thickness:** 100mm (min), each leaf

**Wall finish:** Gypsum based board mounted on dabs (nominal 8kg/m<sup>2</sup>)

**Insulation:** Superglass Party Wall Roll

**External flanking wall:** Masonry (both leaves) with 50mm (min) cavity - fully filled or partially filled with Superglass Cavity Wall Insulation.

Please note: The requirements of the Robust Details Handbook should be strictly followed.



# Timber frame party & separating walls.

# Superglass Timber Frame Party Wall Insulation.

Designed to provide thermal and acoustic performance between dwellings.

The primary function of a timber frame party or separating walls is to provide structural strength to a building, whilst other functions of the walls are to provide acoustic, thermal and fire separation.

The timber frame walls comprise of two timber frames which are sheathed and insulated with Superglass insulation. Superglass TF Party Wall Roll or Slab is used as part of a full fill solution to achieve a zero U-Value when used in conjunction with effective edge sealing.

One way of meeting current Building Regulations is to build towards a Robust Details approved solution.

## Application

**Superglass TF Party Wall Roll / Slab** is designed to provide thermal and acoustic insulation and to help provide a zero U-Value within timber frame party or separating walls as described within Approved Document L1A (England & Wales) and Technical Handbook Section 6 (Scotland) respectively.

TF Party Wall Roll was tested under current regulatory standards as part of a timber frame party wall. The acoustic performance of the structure was 56dB under Technical Handbook Section 5 (Scotland) and 45dB under Approved Document E (England & Wales).

Acoustic Insulation 
Thermal Insulation

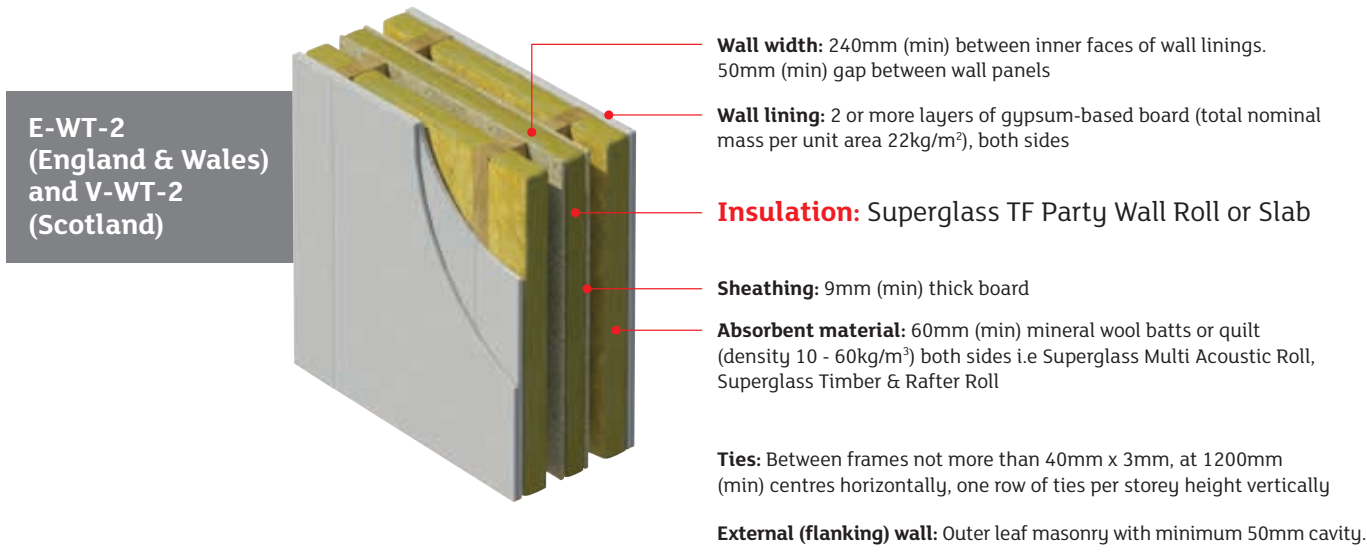
### Superglass TF Party Wall Roll / Slab for timber frame party walls

**Superglass TF Party Wall Roll / Slab** are a lightweight, non-combustible glass mineral wool insulation products. The flexible rolls and slabs are manufactured to allow easy installation and minimum on-site cutting and waste.

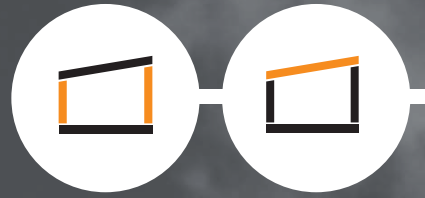


Superglass Products	Thermal conductivity	Minimum density
TF Party Wall Roll	0.036 W/mK	18kg/m <sup>3</sup>
TF Party Wall Slab	0.036 W/mK	18kg/m <sup>3</sup>

## Recommended Robust Details Solutions



Please note: The requirements of the Robust Details Handbook should be strictly followed.



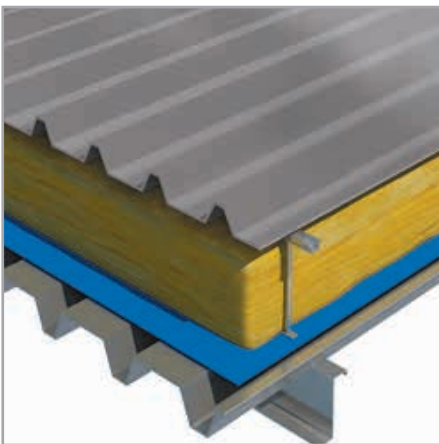
# External metal clad roofs & walls.

# Superglass Cladding Insulation.

Achieves high levels of thermal insulation in metal clad roofs and walls.

Metal cladding systems provide an efficient, attractive and reliable solution to the building envelope. Over the years, these systems have evolved from the single skin metal cladding often associated with agricultural buildings to highly developed systems used in industrial, retail and leisure applications. However, as with all construction components, the ability of the building envelope to satisfy its functional requirements is dependent on its correct specification and installation and, equally as important, on its interaction with the other elements of the building envelope and structure.

As well as offering a highly cost effective solution, Superglass Cladding Mat provides excellent acoustic and thermal performance when installed in the roofs and walls for these applications.



Thermal Insulation



## Superglass Cladding Mat for metal clad roofs & walls

**Superglass Cladding Mat** is designed to provide thermal and acoustic insulation in the walls and roofs of profiled metal clad and portable buildings. The product is a resilient, lightweight and non-combustible glass mineral wool insulation roll with exceptional durability and high tear strength. The roll is manufactured to allow quick installation and minimum on-site cutting and waste.



Superglass Products	Thermal conductivity
Cladding Mat 32	0.032 W/mK
Cladding Mat 35	0.035 W/mK
Cladding Mat 37	0.037 W/mK
Cladding Mat 40	0.040 W/mK



# Internal partition walls.

# Superglass Acoustic Insulation.

Achieving optimum comfort between internal rooms.

Internal partition walls are those that separate rooms within a building. Superglass acoustic insulation significantly reduces the passage of sound, enhancing both comfort and privacy. Furthermore, the flexible nature of the rolls and slabs allows for precise installation between studs and in a wide variety of partition types.



## Superglass acoustic insulation for internal walls

**Multi Purpose Acoustic Slab** is a lightweight, non-combustible glass mineral wool insulation slab. The slab is manufactured to allow easy installation between common stud spacings, and minimum on-site cutting and waste.

Superglass Products	Nominal density
Multi Purpose Acoustic Slab	20kg/m <sup>3</sup>



**Multi Acoustic Roll** is a lightweight, non-combustible glass mineral wool insulation roll. The flexible roll is perforated at 2x600mm and 3x400mm widths to allow easy installation.

Superglass Products	Minimum density
Multi Acoustic Roll	10kg/m <sup>3</sup>



**Acoustic Partition Roll (APR)** is a lightweight, non-combustible glass mineral wool insulation roll. The flexible roll is manufactured to allow easy installation between common stud spacings, and minimum on-site cutting and waste.

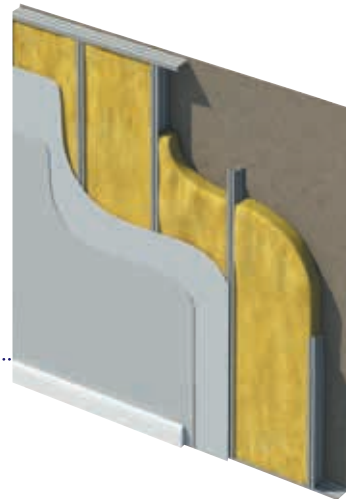
Superglass Products	Nominal density
25mm APR	20kg/m <sup>3</sup>
50mm APR	16kg/m <sup>3</sup>



# Acoustic performance achieved in internal partitions using typical construction methods.

Superglass acoustic insulation helps to deliver superior levels of sound performance for the comfort of a building's occupants. Our tested solutions for metal and timber stud partitions can assist in meeting the requirements of current Building Regulations.

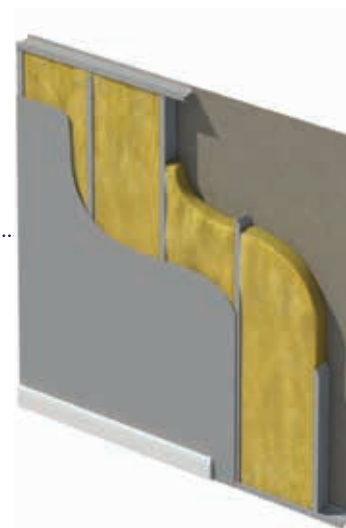
## Metal C Stud Partitions (Double layer plasterboard)



Up to  
**50dB**  
(Rw)

Stud Type	Stud Spacing	Plasterboard	Superglass Insulation	Insulation Thickness	Sound Reduction	Test Report Number
48mm Metal C Stud	600mm	2 x 12.5mm Standard	Acoustic Partition Roll (APR)	25mm	47 dB (Rw)	BTC 18741A
70mm Metal C Stud	600mm	2 x 12.5mm Standard	Acoustic Partition Roll (APR)	25mm	49 dB (Rw)	BTC 18760A
70mm Metal C Stud	600mm	2 x 12.5mm Standard	Acoustic Partition Roll (APR)	50mm	50 dB (Rw)	BTC 18761A

## Metal C Stud Partitions (Single layer plasterboard)

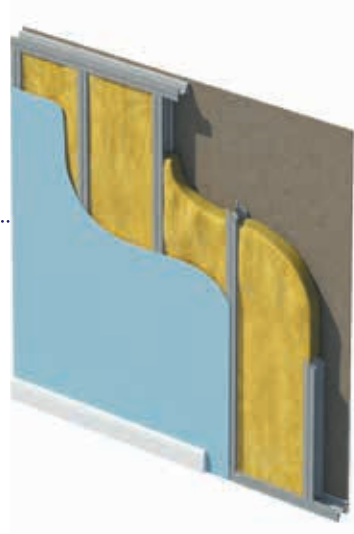


Up to  
**44dB**  
(Rw)

Stud Type	Stud Spacing	Plasterboard	Superglass Insulation	Insulation Thickness	Sound Reduction	Test Report Number
48mm Metal C Stud	600mm	12.5mm Standard	Acoustic Partition Roll (APR)	25mm	40 dB (Rw)	BTC 18741A
48mm Metal C Stud	600mm	12.5mm Standard	Acoustic Partition Roll (APR)	50mm	42 dB (Rw)	BTC 18757A
48mm Metal C Stud	600mm	12.5mm Standard	Multi Purpose Acoustic Slab	50mm	43 dB (Rw)	BTC 18758A
70mm Metal C Stud	600mm	12.5mm Standard	Acoustic Partition Roll (APR)	25mm	42 dB (Rw)	BTC 18760A
70mm Metal C Stud	600mm	12.5mm Standard	Acoustic Partition Roll (APR)	50mm	44 dB (Rw)	BTC 18761A



## GypWall RAPID dB Plus Partitions



**42dB**  
(Rw)

Stud Type	Stud Spacing	Plasterboard	Superglass Insulation	Insulation Thickness	Sound Reduction	Test Report Number
43mm AcouStud RAPID	450mm	15mm BG SoundBloc RAPID	Acoustic Partition Roll (APR)	25mm	42 dB (Rw)	BTC 18759A

## Timber Stud Partitions



**40dB**  
(Rw)

Stud Type	Stud Spacing	Plasterboard	Superglass Insulation	Insulation Thickness	Sound Reduction	Test Report Number
89mm x 38mm Timber	600mm	15mm Standard	Multi Acoustic Roll	80mm	40 dB (Rw)	BTC 17062A

Please note: A copy of the test reports can be obtained from the Superglass Technical Department, email: [technical@superglass.co.uk](mailto:technical@superglass.co.uk)



# Lofts.

Solutions for new  
or retrofit installations.

# Superglass Loft Insulation.

Traditional cold roof solutions offering installation flexibility and high thermal performance.

As much as a third of the heat from a typical house could be escaping through the roof. Superglass loft insulation works by preventing that heat loss. Typically, homeowners can cut their energy bill by up to 20% through effectively insulating the loft space.

- Loft insulation is located between and cross-laid over the joists in the loft
- The recommended minimum depth for new build installations is 270mm
- Superglass Loft Insulation can help lower heating bills, wear and tear on the boiler and reduce global warming and climate change

## Typical energy savings\*

Loft Insulation (0 to 270mm)	Detached house	Semi detached house	Mid terrace house	Detached bungalow
Fuel bill savings (£/year)	£225	£135	£120	£195
Carbon dioxide savings (kgCO <sub>2</sub> /year)	990kg	590kg	530kg	850kg

\*Source: Energy Saving Trust estimates for England, Scotland & Wales when insulating a gas heated home with no loft insulation. Figures based on fuel prices as of April 2017.

Thermal Insulation



## Superglass Loft Insulation for cold roof applications

**Multi-Roll 40 & 44** and **Handy Pack 44** are lightweight, non-combustible glass mineral wool insulation products, designed to provide thermal insulation in lofts. The rolls may be split to allow the user the choice of any of the commonly required widths. The products are strong, flexible and resilient.



Superglass Products	Thermal conductivity
Multi-Roll 40	0.040 W/mK
Multi-Roll 44	0.044 W/mK
Handy Pack 44	0.044 W/mK



## Traditional built-in solutions

- 1 Superglass Loft Insulation between timber joists
- 2 Additional layer(s) cross-laid over timber joists

## Typical U-Values achieved in cold roofs using Superglass Multi-Roll and Handy Pack

	Multi-Roll 44 & Handy Pack 44 (0.044W/mK)							
U-Value (W/m <sup>2</sup> K)	0.17	0.16	0.15	0.12	0.11	0.10	0.09	0.08
Thickness cross-laid over timber joists (mm)	150	170	200	250	300	340	400	450
Thickness between joists (mm)	100	100	100	100	100	100	100	100
Plasterboard	12.5mm standard							
Skim	3mm plaster							

	Multi-Roll 40 (0.040W/mK)							
U-Value (W/m <sup>2</sup> K)	0.16	0.15	0.13	0.11	0.10	0.09	0.08	
Thickness cross-laid over timber joists (mm)	150	170	200	250	300	350	400	
Thickness between joists (mm)	100	100	100	100	100	100	100	
Plasterboard	12.5mm standard							
Skim	3mm plaster							

Calculated using 600mm timber joist centres (9% bridging).

Alternative method:

## Superwhite Loft Blowing Wool.

**Superglass Superwhite Loft** is a glass mineral wool blown loft insulation with a water repellent additive to enhance its resistance to moisture. Installed by professional insulation contractors to a minimum density of 16kg/m<sup>3</sup> the product will have a declared Lambda 90/90 value of 0.042W/mK.

### Application

Superglass Superwhite Loft is designed specifically to provide thermal insulation in new or existing loft/cold roof spaces of up to 500mm, in particular 'hard to treat' lofts where conventional rolls could be problematic to install.

### Installation

Most mineral wool blowing machines can be used to install Superwhite Loft.



### Settlement Class

Superwhite Loft has undergone settlement testing in accordance with BS EN 14064-1: 2010 and given a settlement class of S1.

## Typical U-Values achieved in cold roofs using Superglass Loft

U-Value (W/m <sup>2</sup> K)	Superwhite Loft Blown Wool (0.042W/mK)								
	0.16	0.15	0.14	0.13	0.12	0.11	0.10	0.09	0.08
Thickness over joists (mm)	155	170	190	210	235	265	300	340	390
Thickness between timber joists (mm)	100	100	100	100	100	100	100	100	100
Plasterboard	12.5mm standard								
Skim	3mm plaster								

Calculated using 600mm timber joists centres (9% bridging).

Product performance chart for loft applications				
Declared Thermal Resistance Rd (m <sup>2</sup> K/W)	Minimum installed thickness to achieve declared thermal resistance (mm)	Minimum installed thickness declared (mm)	Minimum Coverage (kg/m <sup>2</sup> )	Minimum Bag Usage per 100m <sup>2</sup>
2.00	84	85	1.4	8.1
2.50	105	105	1.7	10.1
3.00	126	130	2.1	12.1
3.50	147	150	2.4	14.2
4.00	168	170	2.7	16.2
4.50	189	190	3.1	18.2
5.00	210	210	3.4	20.2
5.50	231	235	3.7	22.3
6.00	252	255	4.1	24.3
6.50	273	275	4.4	26.3
7.00	294	300	4.8	28.3
7.50	315	315	5.1	30.4
8.00	336	340	5.4	32.4

Minimum installed thickness declared is rounded to the nearest highest 5mm.  
 Minimum coverage is rounded to the nearest higher 0.1 kg/m<sup>2</sup>.  
 Minimum bag usage is rounded to the nearest 0.1 of a bag.

# Pitched roofs.



# Superglass Timber and Rafter Insulation.

Achieving high levels of thermal insulation between rafters.



The insulation of a pitched roof can take many forms. In most instances the loft space is a cold air space with the insulation being installed at the ceiling level to prevent warm air escaping into the loft space below the roof. There are other installation types that Superglass products can be used for namely Warm Roofs and “Room in a Roof”.

A warm roof is when the insulation is installed into the rafters below the roof line. This allows for the maximum utilisation of the roof space. There are design requirements to ensure that wind driven rain is allowed to freely drain using counter batten and that allow water vapour to disperse.

A “Room in a Roof” will have access to the roof space provided by stairs and allows the homeowner to increase the amount of habitable space that is available in their dwelling. The room will typically have sloping roofs, dwarf walls and possibly a dormer window. The design of the roof still requires the same attention to ensure that water vapour is dispersed and that wind driven rain is allowed to freely drain to the gutters.

Thermal Insulation



## Superglass Timber & Rafter Insulation for pitched roofs

**Superglass Timber & Rafter Rolls / Batts** are lightweight, non-combustible glass mineral wool insulation products. The flexible rolls and batts are manufactured to allow easy installation between common stud spacings, and minimum on-site cutting and waste. The products are supported by friction fitting between timber studs which helps to eliminate air gaps.

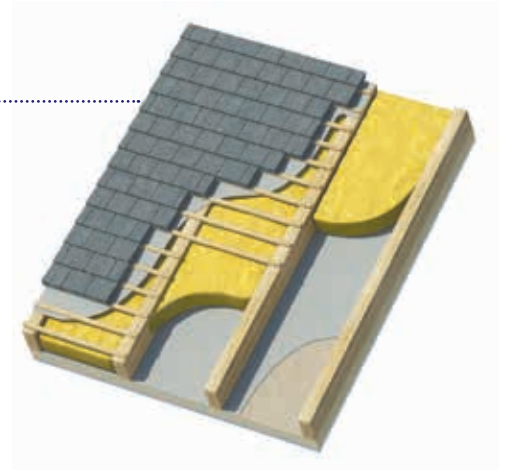
Superglass Products	Thermal Conductivity
Timber & Rafter Roll or Batt 32	0.032 W/mK
Timber & Rafter Roll or Batt 35	0.035 W/mK
Timber & Rafter Roll or Batt 40	0.040 W/mK



# Typical U-Values achieved when using Superglass Timber and Rafter Insulation.

## Standard plasterboard

- Roof tiles
- 25mm timber battens (unvented)
- 25mm timber counter battens (unvented)
- Standard breather membrane
- 9mm OSB
- **Timber rafters (600mm centres) with Superglass Timber and Rafter rolls or batts**
- Standard vapour barrier
- 12.5mm standard plasterboard (0.18W/mK)
- 3mm plaster skim



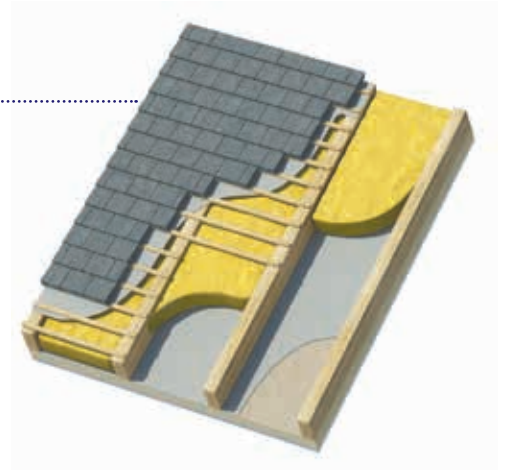
Insulation and stud thickness (mm)	Superglass insulation	U-Value Achieved (W/m²K)
300	Timber & Rafter Batt 32 (3x100mm)	0.12
280	Timber & Rafter Roll or Batt 32 (2x140mm)	0.13
280	Timber & Rafter Roll or Batt 35 (2x140mm)	0.14
280	Timber & Rafter Roll or Batt 40 (2x140mm)	0.15
230	Timber & Rafter Roll or Batt 32 (140+90mm)	0.16
230	Timber & Rafter Roll or Batt 35 (140+90mm)	0.17
200	Timber & Rafter Batt 32 (2x100mm)	0.18
190	Timber & Rafter Batt 32 (100+90mm)	0.19
180	Timber & Rafter Roll or Batt 32 (2x90mm)	0.20
180	Timber & Rafter Roll or Batt 35 (2x90mm)	0.21
180	Timber & Rafter Roll or Batt 40 (2x90mm)	0.23
140	Timber & Rafter Roll or Batt 32	0.24
140	Timber & Rafter Roll or Batt 35	0.26
140	Timber & Rafter Roll or Batt 40	0.28

Calculated using 9% bridging for timber rafters.



## Plasterboard laminate

- Roof tiles
- 25mm timber battens (unvented)
- 25mm timber counter battens (unvented)
- Standard breather membrane
- 9mm OSB
- **Timber rafters (600mm centres) with Superglass Timber and Rafter rolls or batts**
- Standard vapour barrier
- 24.5mm plasterboard laminate (0.022W/mK)
- 3mm plaster skim



Insulation and stud thickness (mm)	Superglass insulation	U-Value Achieved (W/m <sup>2</sup> K)
300	Timber & Rafter Batt 32 (3x100mm)	0.11
280	Timber & Rafter Roll or Batt 35 (2x140mm)	0.12
230	Timber & Rafter Roll or Batt 32 (140+90mm)	0.13
230	Timber & Rafter Roll or Batt 35 (140+90mm)	0.14
190	Timber & Rafter Batt 32 (100+90mm)	0.15
180	Timber & Rafter Roll or Batt 32 (2x90mm)	0.16
180	Timber & Rafter Roll or Batt 35 (2x90mm)	0.17
180	Timber & Rafter Roll or Batt 40 (2x90mm)	0.18
140	Timber & Rafter Roll or Batt 32	0.19
140	Timber & Rafter Roll or Batt 35	0.20
140	Timber & Rafter Roll or Batt 40	0.21

Calculated using 9% bridging for timber rafters.



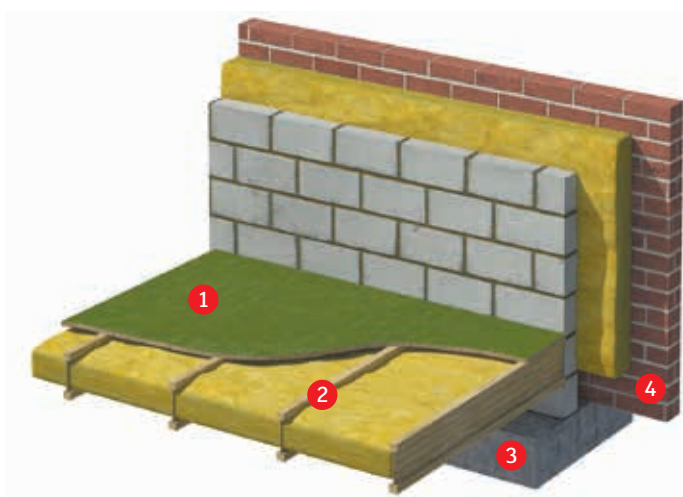
# Floors.

# Superglass Insulation for suspended timber ground floors.

Typically a suspended timber floor consists of timber flooring attached to timber joists which are then suspended above the building's foundations. Superglass insulation is ideal for easy installation and minimising heat loss. This is achieved by friction fitting the insulation between the timber joists.

## Typical Application

- 1 T & G Flooring
- 2 Timber joists (400mm centres) with Superglass insulation
- 3 Foundations
- 4 External masonry wall



Thermal Insulation

### Superglass Insulation for suspended timber ground floors

Superglass Products	Thermal conductivity
Multi-Roll 40	0.040 W/mK
Multi-Roll 44	0.044 W/mK

## Typical U-Values achieved (W/m<sup>2</sup>K)

Insulation and joist depth (mm)	Superglass insulation	Perimeter/Area Ratio									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
300 (2x150)	Multi-Roll 40	0.10	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.14	0.14
300 (2x150)	Multi-Roll 44	0.10	0.12	0.13	0.14	0.14	0.14	0.14	0.15	0.15	0.15
250 (100+150)	Multi-Roll 40	0.11	0.13	0.14	0.15	0.15	0.16	0.16	0.16	0.16	0.16
250 (100+150)	Multi-Roll 44	0.11	0.14	0.15	0.16	0.16	0.16	0.17	0.17	0.17	0.17
200	Multi-Roll 40	0.12	0.15	0.17	0.17	0.18	0.18	0.19	0.19	0.19	0.19
200	Multi-Roll 44	0.13	0.16	0.17	0.18	0.19	0.19	0.20	0.20	0.20	0.20
170	Multi-Roll 44	0.14	0.17	0.19	0.20	0.21	0.22	0.22	0.23	0.23	0.23
150	Multi-Roll 40	0.14	0.18	0.20	0.21	0.22	0.23	0.23	0.23	0.24	0.24
150	Multi-Roll 44	0.15	0.19	0.21	0.22	0.23	0.24	0.24	0.25	0.25	0.25
100	Multi-Roll 40	0.16	0.22	0.25	0.27	0.28	0.19	0.30	0.31	0.31	0.32
100	Multi-Roll 44	0.17	0.23	0.26	0.28	0.29	0.30	0.31	0.32	0.33	0.33

Calculated using 11% bridging for timber joists.

# Superglass Insulation for internal floors.

Aside from internal floors being able to support the different loads of a building, there are also regulations defining their performance in terms of fire resistance and, in England and Wales, requirements in terms of sound insulation too. Even where formal regulations do not exist, it would be reasonable to expect that an internal floor should provide good acoustic separation between storeys.

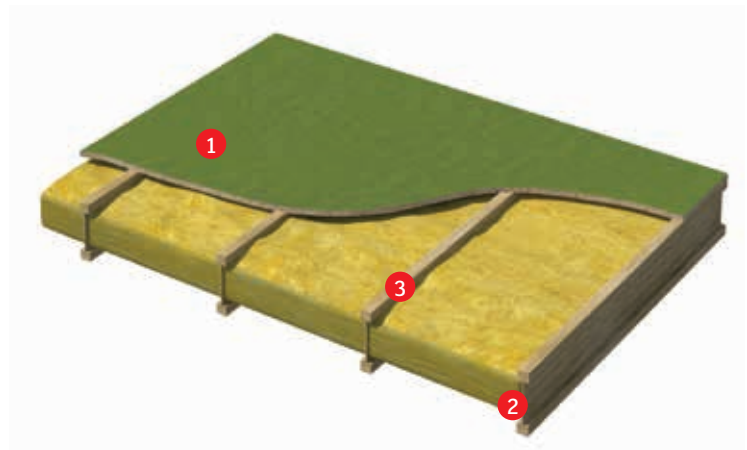
While thermal performance is not specifically regulated, the increasing focus being placed on the energy efficiency of an

entire building means that it makes good sense to maintain optimum temperatures in different rooms.

Internal floors are generally either timber or metal construction, and there are effective Superglass products for both applications.

Timber floors are typically constructed using either timber or metal joists. In each case, the installation of Superglass insulation in the void between the beams will provide improved acoustic performance, while also delivering significant benefits in terms of thermal performance without increasing floor depth.

- 1 T & G Flooring
- 2 Plasterboard below timber joists
- 3 Timber joists with Superglass insulation





## Superglass acoustic insulation for internal walls

**Multi Purpose Acoustic Slab** is a lightweight, non-combustible glass mineral wool insulation slab. The slab is manufactured to allow easy installation between common stud spacings, and minimum on-site cutting and waste.

Superglass Products	Nominal density
Multi Purpose Acoustic Slab	20kg/m <sup>3</sup>



**Multi Acoustic Roll** is a lightweight, non-combustible glass mineral wool insulation roll. The flexible roll is perforated at 2x600mm and 3x400mm widths to allow easy installation.

Superglass Products	Minimum density
Multi Acoustic Roll	10kg/m <sup>3</sup>



**Acoustic Partition Roll (APR)** is a lightweight, non-combustible glass mineral wool insulation roll. The flexible roll is manufactured to allow easy installation between common stud spacings, and minimum on-site cutting and waste.

Superglass Products	Nominal density
25mm APR	20kg/m <sup>3</sup>
50mm APR	16kg/m <sup>3</sup>







Intelligent Environments  
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