



**Combined  
strength in  
timber frame  
construction**



# Glidevale Protect and Superglass Insulation: Innovation, experience and technical expertise.

Today's modern timber frame structures are precision-engineered, strong and durable, based on 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.

For housebuilders as well as designers and manufacturers of open or closed panel timber frame dwellings, achieving the required levels of thermal performance, combined with airtightness and moisture control is now essential to meeting ever challenging Building Regulations.

As a result of a unique partnership between Superglass Insulation and Glidevale Protect, it is now possible to access unrivalled expertise in all these key areas, with symbiotic product solutions which are tried and tested to achieve high performance and compliance.



## About Superglass Insulation.

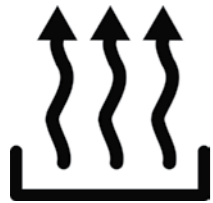
Superglass is a manufacturer with almost 40 years of glass mineral wool insulation innovation and expertise behind it. Today, Superglass is one of the UK's predominant names in the insulation industry with an expansive range of thermal and acoustic solutions for the built environment, which help create comfortable living and working spaces. But there is far more to Superglass insulation products. All Superglass products are made from up to 84% recycled glass and once installed they protect our global environment by saving energy and by reducing our reliance on fossil fuels. Superglass is part of Etex, an international building materials specialist, and a name globally renowned for technical innovation in designing and manufacturing sustainable construction solutions.

## About Glidevale Protect.

Glidevale Protect is a leading building materials specialist, offering a comprehensive range of products for new build and refurbishment schemes. The Glidevale Protect range is tried, trusted and tested for both timber frame and off-site construction, as well as residential and commercial developments, with the reassurance of independent third party product certification from BM TRADA. With two manufacturing facilities in the UK offering high performance and product innovation at the very heart of our business, Glidevale Protect benefits from more than 40 years of experience and technical expertise, helping them become a dedicated supply partner for many in the specification chain.



**Working with Superglass and Glidevale Protect presents a unique combination of expertise and product solutions across the following areas:**



## **Thermal efficiency and performance.**

Specifying using a fabric first approach for the building envelope can deliver valuable energy-saving opportunities, improved thermal efficiency and lower carbon emissions. Glass mineral wool insulation delivers high levels of thermal performance in timber frame walls and roofs for the lifetime of the building. This energy efficiency can be enhanced using external and internal reflective wall membranes with strong aged thermal resistance as a system within still air cavities. Operating as a radiant barrier, the use of reflective membranes helps to retain heat within the structure, thereby contributing to a low U-Value for the wall element and helping to ensure compliance to Building Regulations Part L (England & Wales) and Technical Handbook Section 6 (Scotland).



**Protect TF200 Thermo and Thermo Extreme insulating breather membranes for external walls.**

**Protect VC Foil Ultra insulating vapour control layer and air barrier for internal walls.**

**Protect sealing tapes.**



## **Airtightness.**

Managing and improving the airtightness of a building is one of the most effective ways to increase energy efficiency and reduce fuel consumption. Through careful specification and installation of wall, ceiling and floor cassette airtightness membranes sealed with tape, air leakage via unwanted draughts and service penetrations can be omitted, preventing excess heat loss through the external fabric.



## **Condensation control.**

As buildings are increasingly designed to be more airtight and energy efficient, it's important to achieve the correct balance of ventilation, whilst adding value to the occupiers' health and well-being. Left unchecked, the build-up of harmful condensation can lead to mould and mildew which damages interior decoration and is potentially harmful.

Combining an external wall, vapour permeable breather membrane with an internal air and vapour control layer also minimises the risk of interstitial condensation within the insulated wall structure.



**Superglass Timber & Rafter Batts 32/35.**



**Superglass Timber & Rafter Rolls 32/35/40.**

## Sustainability built-in.

**Both Superglass Insulation and Glidevale Protect are fully committed to working towards net zero and dedicated to helping designers, specifiers and housebuilders meet their sustainability targets. With that in mind, both companies continue to make great improvements in their efficiency and environmental credentials.**

## Superglass Insulation.

Superglass insulation is made from glass mineral wool, which is created from up to 84% recycled waste glass. In 2023 alone, approximately 42,000 tonnes of recycled glass were utilised in the production of Superglass insulation products. This significant use of recycled materials contributes positively to the environment even before the insulation undergoes its advanced manufacturing process.

Fully certified to ISO 14001 Environmental Management Systems (EMS), our manufacturing facility in Scotland is one of the most advanced in Europe, designed to help protect the environment, using lean production techniques and waste elimination principles throughout the process. The latest technologies reduce energy consumption, whilst water usage is monitored on cloud-based sensors to identify and reduce leakage. New water filtration systems re-use wastewater in our process, reducing our need for fresh water and avoiding dirty water being discharged into sewer systems. Any fibre waste is also recycled straight back into the system. Once manufactured, Superglass products are compression-packed up to one-ninth their original size, so more can be loaded onto each delivery – reducing the number of trucks on the road and hence delivery miles and carbon emissions.

In fact, it's been calculated that over its lifetime, Superglass glass mineral wool insulation typically saves up to 200 times the energy used to create and transport it.



## Environmental Accreditations.

Both Superglass and Glidevale Protect have been environmentally audited by leading quality assurance bodies and are accredited to national and international standards, so you can be confident when specifying or installing our products.

## Glidevale Protect.

Glidevale Protect has two factories in the UK and both sites have achieved accreditation to ISO 14001 and the ISO 50001 Energy Management Standard, putting in place new systems and procedures to track energy consumption across each manufacturing facility. It's one of many initiatives instigated by the company's Group Sustainability Board, which meets every month to develop its sustainability and ESG action plan. Activities include waste segregation and an optimised waste management process, as well as recycling ABS offcuts in a closed loop system, membrane waste and pallet recycling with local partners, as well as constantly looking at ways to reduce plastic and increase the recycled content in the company's product packaging.

Our commitment to sustainability is also demonstrated by our Gold Level accreditation from the Supply Chain Sustainability School, and all our company cars are now hybrid or fully electric vehicles with EV chargers installed at both our factories. Our Pinxton factory in Nottinghamshire has also been fully solar-powered since 2011, exporting an average surplus per day since the system's commissioning.

At product level, Glidevale Protect's three most popular construction wall membranes now carry independently verified Environmental Product Declarations (EPDs), giving specifiers reliable, transparent data on our products, which act as 'hidden protectors' – improving the thermal efficiency and airtightness of buildings whilst reducing the risk of condensation.

Individual product EPDs are available for our market leading reflective membranes - Protect TF200 Thermo, Protect VC Foil Ultra and the non-reflective Protect TF200 external wall breather membrane.



**Glidevale Protect wall construction membranes:**

TF200®, TF200 Thermo and VC Foil Ultra

**Now independently EPD certified**



# U-Values and Psi-values (Ψ-value).

Specifying the wall systems below can help you to meet the U-Value requirements of Part L (England & Wales) and Technical Handbook Section 6 (Scotland).

U-Values achieved for an external timber frame wall

Wall build-up			
Description	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m <sup>2</sup> K/W)
Outer brickwork	102.50	0.77	
Unvented low emissivity cavity	50.00		0.77
Protect TF200 Thermo or Thermo Extreme external wall membrane			
Oriented Strandboard (OSB)	9.00	0.13	
Superglass Timber & Rafter Roll 32 between timber studs*	140	0.032	4.35
Protect VC Foil Ultra internal wall air and vapour control layer			
Unvented low emissivity cavity between timber battens**	25.00		0.78
12.5mm Standard plasterboard (0.19W/mK) or 37.5mm insulated plasterboard (1.20m <sup>2</sup> K/W)			
Plaster skim	3.00	0.80	

Insulation between timber studs	Thermal Conductivity (W/mK)	Insulation and timber stud thickness (mm)	With standard plasterboard (W/m <sup>2</sup> K)	With insulated plasterboard (W/m <sup>2</sup> K)
Superglass Timber & Rafter Roll or Batt 32	0.032	230 (90+140)	0.14	0.12
Superglass Timber & Rafter Roll or Batt 35	0.035	230 (90+140)	0.14	0.12
Superglass Timber & Rafter Roll 40	0.040	230 (90+140)	0.15	0.13
Superglass Timber & Rafter Roll or Batt 32	0.032	180 (2x90mm)	0.16	0.14
Superglass Timber & Rafter Roll or Batt 35	0.035	180 (2x90mm)	0.17	0.14
Superglass Timber & Rafter Roll 40	0.040	180 (2x90mm)	0.18	0.15
Superglass Timber & Rafter Roll or Batt 32	0.032	140	0.19	0.16
Superglass Timber & Rafter Roll or Batt 35	0.035	140	0.20	0.16
Superglass Timber & Rafter Roll 40	0.040	140	0.21	0.17

\*Timber bridging is assumed as 15%. Bridge thermal conductivity of 0.12W/mK \*\*Timber bridging is assumed as 9.50%. Bridge thermal conductivity of 0.12W/mK

Linear Thermal Transmittance (Ψ-value) & Temperature Factor (f-value) using 140mm Superglass Timber & Rafter Roll 32, Protect TF200 Thermo/Thermo Extreme & Protect VC Foil Ultra

Junction Type	Ψ-value (W/mK)	f-value
E02 - Lintel at Window Head	0.071	0.859
E03 - Window Sill	0.045	0.909
E04 - Window Jamb	0.026	0.976
E05 - Ground Floor	0.059	0.899
E06 - Intermediate floor within a dwelling	0.053	0.943
E12 - Gable (insulation at ceiling level)	0.041	0.931
E16 - Corner (Normal)	0.036	0.924
E17 - Corner (Inverted)	-0.017	0.972
E18 - Party wall between dwellings (Per dwelling)	0.040	0.917

The results have been generated using AutoPsi Thermal Modelling Tool. The calculations have been completed using methodology outlined in BS EN ISO 10211 and in accordance with BR497 2nd Edition. Any deviation from the details used as part of this calculation will result in the calculation being inaccurate. To request a copy of a calculation or a different build-up please email [technical.stirling@etexgroup.com](mailto:technical.stirling@etexgroup.com)

# Technical Support. Whatever your needs, let us help.

Our extensive range of specialist building product solutions across both businesses is supported by years of manufacturing expertise and technical knowledge. Here, you'll find a selection of useful resources designed to assist those who are specifying and installing our products.



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

## Resources.

You can easily access specification tools including BIM objects here:

Superglass:



Glidevale Protect:



Our Technical Teams will help you find the best solution for your application, contact them at:

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**Glidevale Protect**

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# Memberships.

## Superglass Insulation



Structural Timber Association (STA)



Modular & Portable Building Association (MPBA)



Supply Chain Sustainability School



Future Homes Hub



Made in Britain

## Glidevale Protect



Structural Timber Association (STA)



Modular & Portable Building Association (MPBA)



Supply Chain Sustainability School



Irish Timber Frame Manufacturers' Association



Off-site Alliance



National Federation of Roofing Contractors (NFRC)

# Accreditations.

## Superglass Insulation



UKCA



ISO 9001 - Quality Management Systems (QMS)



CE Mark



ISO 14001 - Environmental Management Systems (EMS)



BRE Global Verified

## Glidevale Protect



UKCA



ISO Certification - Quality, Environmental and Health & Safety



CE Mark



EPD Hub



ISO 50001: Energy Management



BM TRADA



STA Assure Gold



Image courtesy of Barratt Developments PLC



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