

# Superglass Cladding Mat

## Best Practice Guide

May 2024

This document has been created as a guide to the installation of Superglass Cladding Mat. Always refer to the system manufacturers documents for specific instructions.

### 1. Introduction

Adding insulation to any building is one of the most cost-effective ways to save energy and reduce heating and cooling bills. Correct installation during construction is crucial to its effectiveness though and must meet both design stage calculations and Building Regulations.

This guide highlights best practice in the storage, handling, and installation of Superglass Cladding Mat in built-up metal roof and wall cladding systems, with the ultimate aim of improving building envelope performance, efficiency and health & safety.

### 2. Product

Superglass Cladding Mat is a non-combustible glass mineral wool insulation.

Glass Mineral Wool Insulation is the most commonly used materials in metal clad buildings, chosen for its non-combustibility, lightweight, low thermal conductivity and ease of handling. These properties make it a cost-effective and sustainable solution.

### 3. Performance

#### 3.1 Fire Classification

All Superglass Cladding Mat products are deemed non-combustible with a fire classification of Euroclass A1 (the highest possible rating) when tested to BS EN 13501-1 Reaction to Fire.

#### What does non-combustible mean?

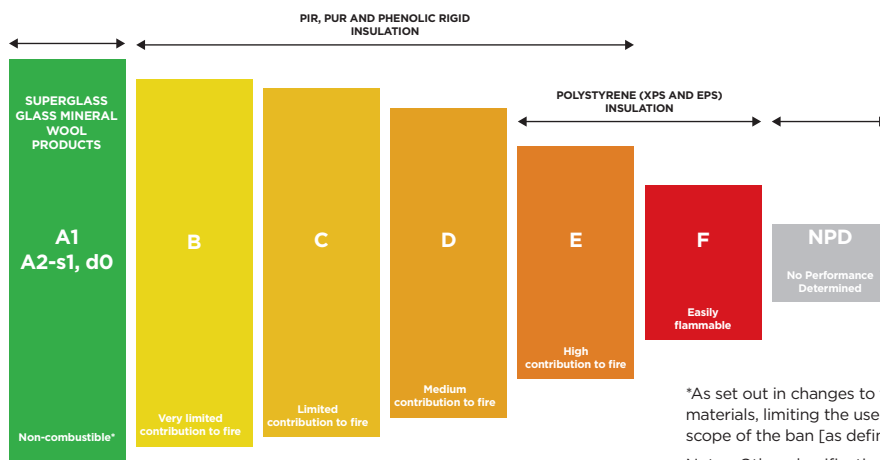
Non-combustible means that a material is resistant to combustion, as determined by an appropriate test procedure.

#### Reaction to Fire

This is the measurement of how a material or system will contribute to fire development and spread, particularly in the very early stages of a fire when evacuation is crucial. All insulation materials are given a Euroclass Reaction to Fire Classification in accordance with BS EN 13501-1 of the construction products and building elements.

All Superglass Insulation products have been given a classification of Euroclass A1.

According to British Standard BS EN 13501-1: Fire classification of construction products and building elements, Euroclass A1 products will not contribute to any stage of the fire including the fully developed fire.



\*As set out in changes to the building regulations 2010 which bans the use of combustible materials, limiting the use of materials to those that achieve A1 or A2-s1,d0 on buildings in scope of the ban [as defined in regulation 7(4)]

Notes: Other classifications of smoke and flaming droplets within A2 are classed as limited combustibility. (Not shown here as no insulant falls in that category)

NPD - No Performance Determined. In this instance no performance is declared and information regarding reaction to fire performance is unknown. Illustration for guidance only. It is crucial to check the actual Euroclass reaction to fire classification of a product before use.

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### 3.2 Thermal Performance

In terms of thermal performance, Superglass Cladding Mat offers a range of declared thermal conductivities (lambda ( $\lambda$ ) value) for the designer to select from depending on the specific u-value requirements.

Superglass Cladding Mat 32 - 0.032W/mK

Superglass Cladding Mat 35 - 0.035W/mK

Superglass Cladding Mat 37 - 0.037W/mK

Superglass Cladding Mat 40 - 0.040W/mK

#### Typical u-values (W/m<sup>2</sup>K) achieved - Walls

Insulation Thickness (mm)	Cladding Mat 32	Cladding Mat 35	Cladding Mat 40
280	0.14	0.15	0.16
260	0.15	0.16	0.18
240	0.16	0.17	0.19
200	0.19	0.20	0.22
180	0.21	0.22	0.25
160	0.23	0.25	0.28
140	0.26	0.28	0.32

Rail Spacing: 1200mm

Rail Width: 40mm

Rail Thickness: 1.2mm

#### Typical u-values (W/m<sup>2</sup>K) achieved - Roofs

Insulation Thickness (mm)	Cladding Mat 32	Cladding Mat 35	Cladding Mat 40
280	0.14	0.15	0.17
260	0.15	0.16	0.18
240	0.16	0.17	0.19
200	0.19	0.20	0.23
180	0.21	0.23	0.25
160	0.24	0.25	0.28
140	0.27	0.29	0.33

Rail Spacing: 1200mm

Rail Width: 40mm

Rail Thickness: 1.2mm

The above calculations were carried out for standard twin skin rail and bracket systems. These are to be used as a guide only, the system designer/manufacturer should be consulted for project specific u-value calculations.

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### 3.3 Product Specification

#### Cladding Mat 32

Thickness (mm)	Length (m)	Width (mm)	Pack Area (m <sup>2</sup> )	Packs per pallet	Thermal Conductivity (W/mK)	Thermal Resistance (m <sup>2</sup> K/W)	Product Code
50	6.60	1200	7.920	24	0.032	1.55	2144237
60	5.60	1200	6.720	24	0.032	1.85	2144362
80	4.20	1200	5.040	24	0.032	2.50	2144363
90	3.80	1200	4.560	24	0.032	2.80	2144364
100	3.90	1200	4.680	24	0.032	3.10	2144236
110	3.00	1200	3.600	24	0.032	3.40	2144365
120	2.90	1200	3.480	24	0.032	3.75	2144366
130	3.00	1200	3.600	24	0.032	4.05	2144240
140	2.80	1200	3.360	24	0.032	4.35	2144239

Please note that all dimensions are nominal.

#### Cladding Mat 35

Thickness (mm)	Length (m)	Width (mm)	Pack Area (m <sup>2</sup> )	Packs per pallet	Thermal Conductivity (W/mK)	Thermal Resistance (m <sup>2</sup> K/W)	Product Code
60	9.60	1200	11.520	24	0.035	1.70	2144354
80	7.20	1200	8.640	24	0.035	2.25	2144355
90	6.30	1200	7.560	24	0.035	2.55	2144356
100	6.30	1200	7.560	24	0.035	2.85	2144431
120	5.00	1200	6.000	24	0.035	3.40	2144292
130	4.25	1200	5.100	24	0.035	3.70	2144613
140	4.00	1200	4.800	24	0.035	4.00	2144357
150	3.80	1200	4.560	24	0.035	4.25	2144358
160	3.60	1200	4.320	24	0.035	4.55	2144359
180	3.20	1200	3.840	24	0.035	5.10	2144360
200	2.90	1200	3.480	24	0.035	5.70	2144361

Please note that all dimensions are nominal.

#### Cladding Mat 40

Thickness (mm)	Length (m)	Width (mm)	Pack Area (m <sup>2</sup> )	Packs per pallet	Thermal Conductivity (W/mK)	Thermal Resistance (m <sup>2</sup> K/W)	Product Code
60	16.00	1200	19.200	24	0.040	1.50	2144217
80	12.10	1200	14.520	24	0.040	2.00	2144265
90	10.65	1200	12.780	24	0.040	2.25	2144264
100	9.95	1200	11.940	24	0.040	2.50	2144263
120	8.05	1200	9.660	24	0.040	3.00	2144262
140	7.00	1200	8.400	24	0.040	3.50	2144261
150	6.50	1200	7.800	24	0.040	3.75	2144387
160	6.05	1200	7.260	24	0.040	4.00	2144250
170	6.00	1200	7.200	24	0.040	4.25	2144335
180	5.45	1200	6.540	24	0.040	4.50	2144249
200	4.60	1200	5.520	24	0.040	5.00	2144248
220	3.20	1200	3.840	24	0.040	5.50	2144214
230	3.10	1200	3.720	24	0.040	5.75	2144342
240	3.00	1200	3.600	24	0.040	6.00	2144215
260	3.00	1200	3.600	24	0.040	6.50	2144351
280	2.80	1200	3.360	24	0.040	7.00	2144369

Please note that all dimensions are nominal.

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### 4. Design

Superglass Cladding Mat is an ideal choice for built-up cladding systems. The design should allow for the insulation to fit the cavity within the build-up, in contact with the underside of the external sheet. Best practice is to specify the insulation to fit the cavity gap, in a thickness that allows for a slight compression (not excessive), typically around 10%.

### 5. Health and Safety

**“The mechanical effect of fibres in contact with skin may cause temporary itching”**



Cover exposed skin. When working in unventilated areas wear disposable face mask.



Clean area using vacuum equipment.



Waste should be disposed of according to local regulations.



Rinse in cold water before washing.



Ventilate working area if possible.



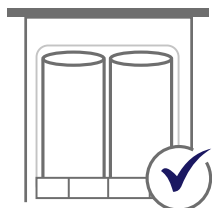
Wear goggles when working overhead.

Please refer to product Material Safety Datasheet (MSDS) for more information.

### 6. Site Considerations

For specific installation instructions, contact the Superglass Technical Services Team.

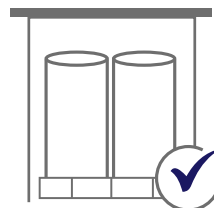
#### 6.1 Storage: How to store our insulation



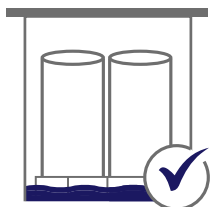
Keep the product covered and fully wrapped on a pallet until required.



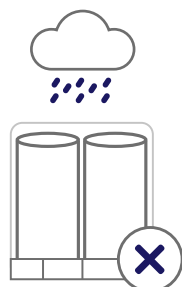
A wrapped pallet with its hood free from damage, can be left outside when space inside is not available, for short periods only.



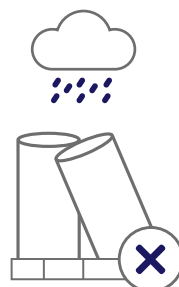
Once the plastic hood has been removed keep all of the product inside and off the ground away from the elements.



Product should be kept elevated on a pallet at all times to avoid sitting in water.



Product can become wet and damaged when exposed to the elements for long periods of time.



Loose product is extremely likely to have water damage when left in the rain rendering your stock unfit for sale.

Please note we do not recommend that Superglass pallets are double stacked.

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### 6.2 Recovery to manufactured thickness

Superglass Cladding Mat products are delivered to site compression-wrapped in polythene for efficient transportation. The insulation is designed to recover to its full thickness in order to fully fill the construction, as referenced in the British Standard for glass mineral wool BS EN 13162.

Once unwrapped, the installer should check that the Superglass Cladding Mat is recovering to the stated thickness, to fill the cavity. Once unwrapped, the installer should check that the Superglass Cladding Mat is recovering to the stated thickness, to fill the cavity during sheeting and stay in contact with the external sheet.

**The insulation should not be walked on or compressed excessively as the fibres will be damaged leading to a loss of thickness and thermal performance. If damage does occur, replacement material must be installed.**

### 6.3 Unpacking

Remove external shrink-wrapped waterproof hoarding and shrouding. Packaging should be collected and disposed of responsibly. Packaging discarded within the construction is not acceptable and will have a detrimental effect on performance.

Once unpackaged the insulation rolls should not be left open to the elements.

### 6.4 Free pallet recovery service

**A service for our customers and a great way to protect our environment.**

In association with Scott Pallets, an award-winning, national packaging recovery, repair and re-use specialist, we can now offer Superglass customers nationwide a unique and sustainable pallet recovery solution which has been endorsed by WRAP (The Waste and Resources Action Programme).

#### What are the benefits for you?

- 🌱 All reusable pallets go back to Superglass for re-use
- 🌱 No waste to landfill: pallets are either re-used or recycled (for those damaged beyond repair)
- 🌱 Cheaper than disposing of pallets in waste skips
- 🌱 Nationwide solution
- 🌱 Service in line with the principals of the Circular Economy
- 🌱 Can form a valuable part of your sustainability strategy

#### Key points:

- Free collection of reusable pallets (non-reusable pallets may attract a charge)
- Collections actioned as soon as a minimum of 50 pallets accumulated (can be a mix of pallets – Not just Superglass pallets)
- Nationwide Collections within 15 working days on average from request

#### Interested? Can your site please:

- Ensure pallets are stacked on site, ready to be loaded before requesting a collection
- Load the pallets safely and efficiently onto the vehicle
- Damaged pallets can be loaded
- Confirm if there are any site or vehicle restrictions
- If sites can only accommodate rigid vehicles, note that the maximum quantity that can be loaded is 250 pallets (as opposed to 550 on an artic vehicle)
- Load within 1 hour of the lorry arriving on site (to avoid demurrage charges as per the RHA)

#### Need a collection?

- Freephone: 0800 282 488
- Email: [collection@scott-pallets.com](mailto:collection@scott-pallets.com)



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### 7. Roof Installation

For roof installations, begin by distributing rolls of Superglass Cladding Mat to each run starting at the ridge. The rolls are a standard 1200mm width, and the polythene packaging should be cut along its length, removed and disposed of responsibly – polythene, fixings, fillers and mastics must NOT be discarded in the roof construction.

Locate the Cladding Mat between the profiled metal outer cladding sheets and inner lining sheets, which are fixed on top of the supporting purlins. Inner and outer sheets are usually separated by rail and bracket systems or preformed insulated spacers. Where rail and bracket systems are used, tuck the insulation under the rails with all the roll edges tightly butted.

Check the insulation is recovering to its full thickness and filling the cavity with a small degree of compression.

Take care when laying insulation around roof lights, to make sure a clean edge runs the length of the roof light so there's a continuous run of insulation. The rail and bracket system will create the space for the insulation, which is then secured to the purlin.

All joints should be closely butted to reduce the risk of air gaps. For double layer insulation systems joints should be staggered to minimise thermal bridging gaps. If brackets are already in place, compress the insulation around the bracket and under rails for a tight fit to minimise the potential for gaps. Depending on the density of the insulation, application and system, you may need to cut the insulation to fit around brackets.

**Do not walk on or excessively compress the Superglass Cladding Mat as this will damage the fibres leading to a loss of thickness and thermal performance. If damage does occur, replacement material must be installed.**

#### 7.1 Protection

Exposing the insulation to the elements should be avoided, and Superglass Cladding Mat should always be installed in a dry state.

You should only lay out as much insulation as you can fit within your work period or before rain, and any insulation at ridges and verges should be protected until it can be covered by flashings.

### 8. Wall Installation

For walls, installation is usually carried out from a scissor lift. Unwrap the insulation and remove the packaging (again, don't discard it – or fixings, filler or mastics – in the wall construction).

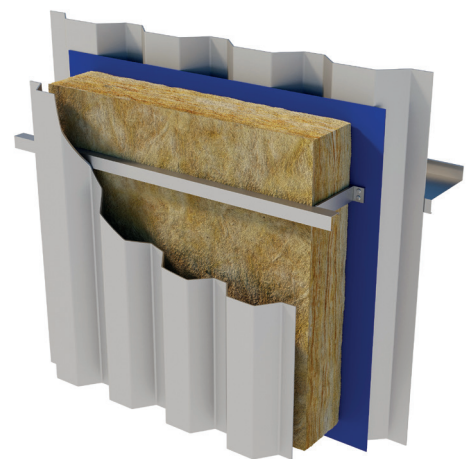
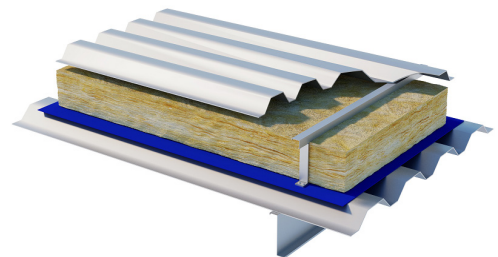
If the system incorporates horizontal spacers, clamp the insulation across the full width at the head of the wall to prevent slumping using the support rail and bracket system, which is then secured to the cladding rail, helping to minimise thermal bridging. Let the roll drop down and at regular intervals, secure the support rail.

If the system has vertical spacers, consult the system manufacturer for the optimum method to clamp and fix the insulation to avoid slumping.

In both cases, insulation should be tucked under rails and roll edges tightly butted to maintain continuity, and avoid leaving the insulation exposed to the elements for long periods.

For additional support, stick pins or other fixings can be used at regular intervals. Push the insulation onto the stick pins and secure it using non-return washers, which should hold but not compress the material. The fixings should be secured the day before, and applied to a dry surface; mechanical fixings are recommended at rail positions.

Compress and form the insulation around brackets and under rails that are already in place, to minimise the potential for thermal bridges and gaps. Tightly butt the joints to reduce edges forming, and pin each end of any joints to prevent sagging. If double layer insulation is required, stagger the joints where possible.



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### 9. Standard of workmanship

The performance of the system as a whole will depend on a high standard of workmanship, with no gaps in the insulation. Indeed, Building Regulations stipulate that the building fabric should be constructed with no significant thermal bridges or gaps in the insulation, so it's vital to make sure it's installed carefully with junctions, apertures, ridges, eaves and corners fully filled.

Thermal bridging within elements (for example, around windows and doors) is accounted for when calculating U-values, but those at junctions and openings need to be calculated separately and the heat loss included in the SBEM calculations.

### Accreditations



### Memberships



Intelligent Environments  
**Superglass**

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