



Timber Frame Slab

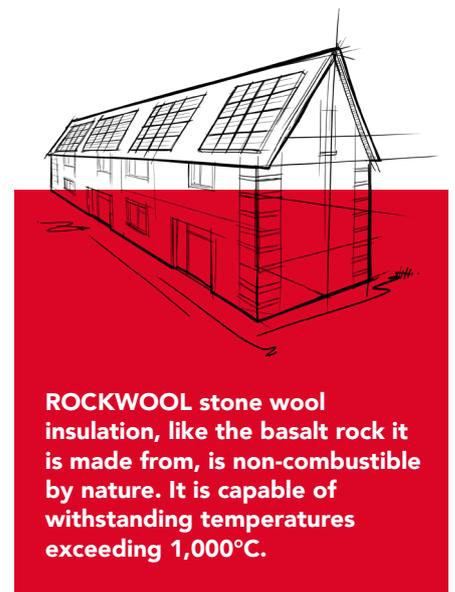
Non-combustible thermal insulation designed for use within timber frame constructions

ROCKWOOL Timber Frame Slab is a semi-rigid insulation designed specifically for use between the studwork of external timber frame walls.

Timber Frame Slab is non-combustible, and achieves the highest Euroclass A1 reaction to fire classification as defined in EN 13501-1.

ROCKWOOL stone wool insulation is sound absorbing by nature, and can be used to significantly reduce the noise transmission into a building and between the indoor spaces, making it an ideal solution when used in a timber frame application.

- Thermal performance - low thermal conductivity of 0.034 W/mK
- Non-combustible - Euroclass A1 classification as defined in EN 13501-1
- Sound absorbent by nature - high density, stone wool fibres
- Easy installation - 570mm slab width for straightforward installation into 600mm frames
- Breathable - water repellent, and vapour permeable. Helps prevent rot and mould
- Durable - no slumping or sagging, maintains performance over time
- Sustainability - produced from abundant, renewable volcanic rock



Timber Frame Slab



When building with timber, using non-combustible ROCKWOOL insulation can help to reduce the risk of fire, and fire spread, particularly during the more vulnerable construction phase. Tested to BS EN 13501-1, achieving the highest possible Euroclass reaction to fire classification of A1, Timber Frame Slab acts as a barrier to fire, able to withstand temperatures over 1,000°C.

ROCKWOOL stone wool provides thermal insulation, helping to keep the heat in, and the cold out.

Comprised of thousands of high density stone wool fibres, Timber Frame Slab traps sound waves and absorbs vibration, helping to prevent unwanted noise from disturbing comfort.

The Timber Frame Slab will also repel liquid water, but allow water vapour to pass through, enabling the construction to breathe, reducing the risk of condensation, which can lead to rot, mould and humidity damage.

Stone wool insulation has a unique physical structure and durability, meaning that it keeps its shape over time, despite changes in temperature or humidity. With its 570mm slab width and dense fibre structure, ROCKWOOL Timber Frame Slab is quick and easy to fit into timber frame walls, reducing the need for cutting, minimising waste and speeding up installation. The dimensional stability means the slabs will not sag or slump after installation, with no gaps in the insulation layer, delivering maximum performance for the life of the building.

APPLICATIONS

ROCKWOOL Timber Frame Slab has been designed specifically for quick and easy installation into the standard size 600mm (on centre) studs, of external timber frame walls. This means the insulation takes less time to install, is a more reliable and long-lasting fit, and that the performance does not diminish over the lifetime of the building.

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PERFORMANCE

Thermal performance

Timber Frame Slab achieves a thermal conductivity lambda (λ) value of 0.034 W/mK in accordance with BS EN 13162:2012 + A1:2015.

Fire performance

Timber Frame Slab is non-combustible achieving a reaction to fire classification of A1, as defined in EN13501-1.

Acoustic performance

Timber Frame Slab can significantly reduce outside sources of noise when used in an external wall.

The non-directional fibre orientation and density of stone wool means that sound waves are trapped, and vibrations dampened which can significantly reduce outside sources of noise when used in an external wall.

ROCKWOOL insulation retains its shape and thickness for the lifetime of the building, which means it performs acoustically decade after decade.

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TYPICAL U-VALUES

Typical wall constructions and u-value are listed in the tables below:

Timber frame external wall constructions

1. Insulation between the studs, without service void

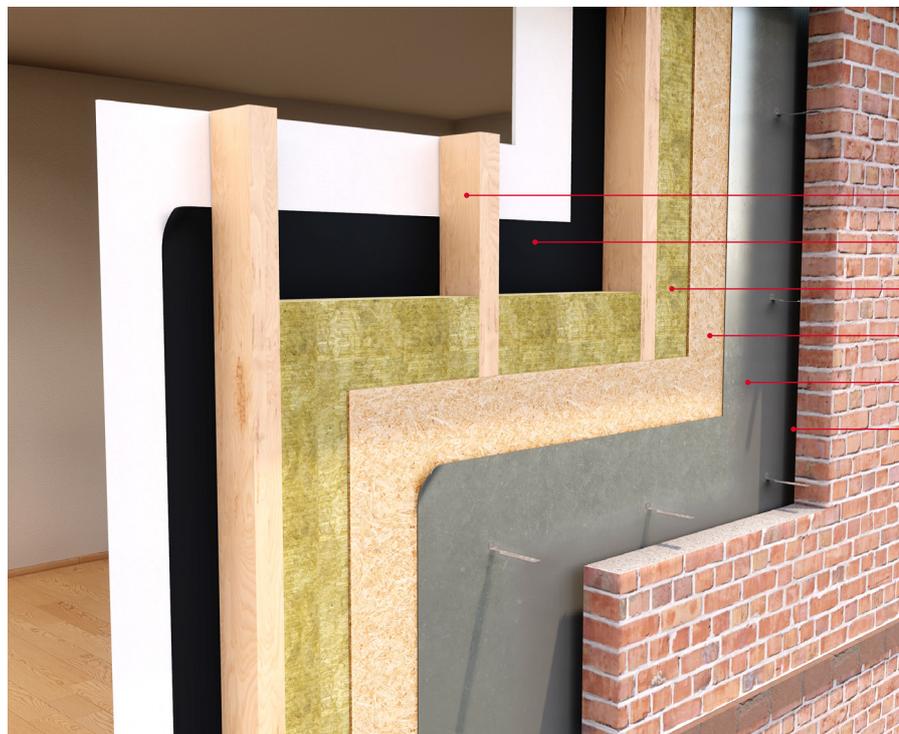


Figure 1

- Timber stud
- Vapour control layer
- Timber Frame Slab insulation
- OSB
- Breather membrane
- 50mm clear cavity

U-value (W/m ² K)	Timber Frame Slab (mm)	Stud depth	Vapour control layer	Breather membrane		
			Standard	Standard	Tyvek Reflex	Protect TF200 Thermo
0.28	140	140	•	•	-	-
0.25	140	140	•	-	•	-
0.23	140	140	•	-	-	•

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2. Insulation between the studs, with service void

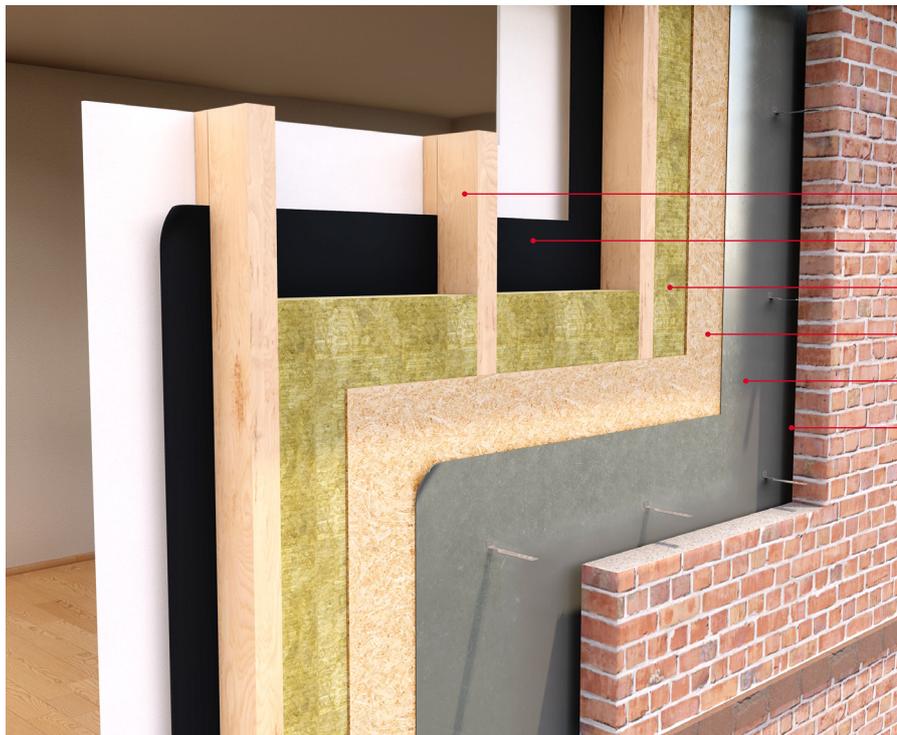


Figure 2

- Timber studs with 25mm service void
- Vapour control layer
- Timber Frame Slab insulation
- OSB
- Breather membrane
- 50mm clear cavity

U-value (W/m ² K)	Timber Frame 034 Slab (mm)	Stud depth	Vapour control layer			Breather membrane		
			Standard	Tyvek Airguard	Protect VC Foil Ultra	Standard	Tyvek Reflex	Protect TF200 Thermo
0.36	90	89	•	-	-	•	-	-
0.28	90	89	-	•	-	-	•	-
0.26	90	89	-	-	•	-	-	•
0.26	140	140	•	-	-	•	-	-
0.21	140	140	-	•	-	-	•	-
0.20	140	140	-	-	•	-	-	•

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3. Insulation between the studs with sheathing insulation

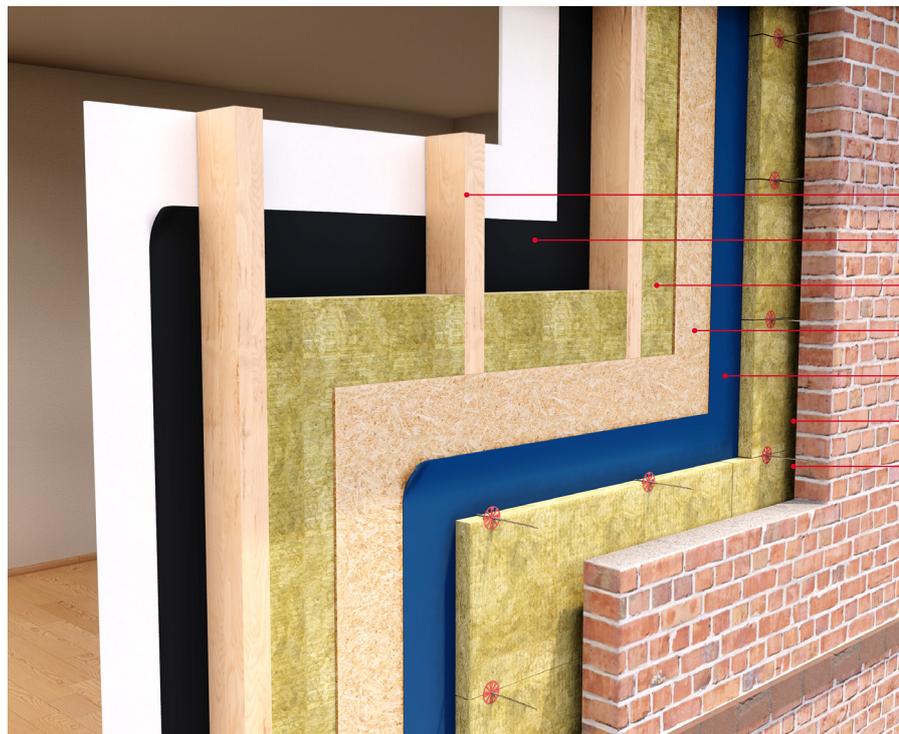


Figure 3

- Timber studs with 25mm service void
- Vapour control layer
- Timber Frame Slab insulation
- OSB
- Breather membrane
- RainScreen Duo Slab
- 50mm clear cavity

U-value (W/m ² K)	Timber Frame 034 Slab (mm)	Stud depth	RainScreen Duo Slab (mm)	Vapour control layer	Breather membrane
				Standard	Standard
0.24	90	89	50	•	•
0.19	140	140	50	•	•

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4. Insulation between the studs and with sheathing insulation and service void

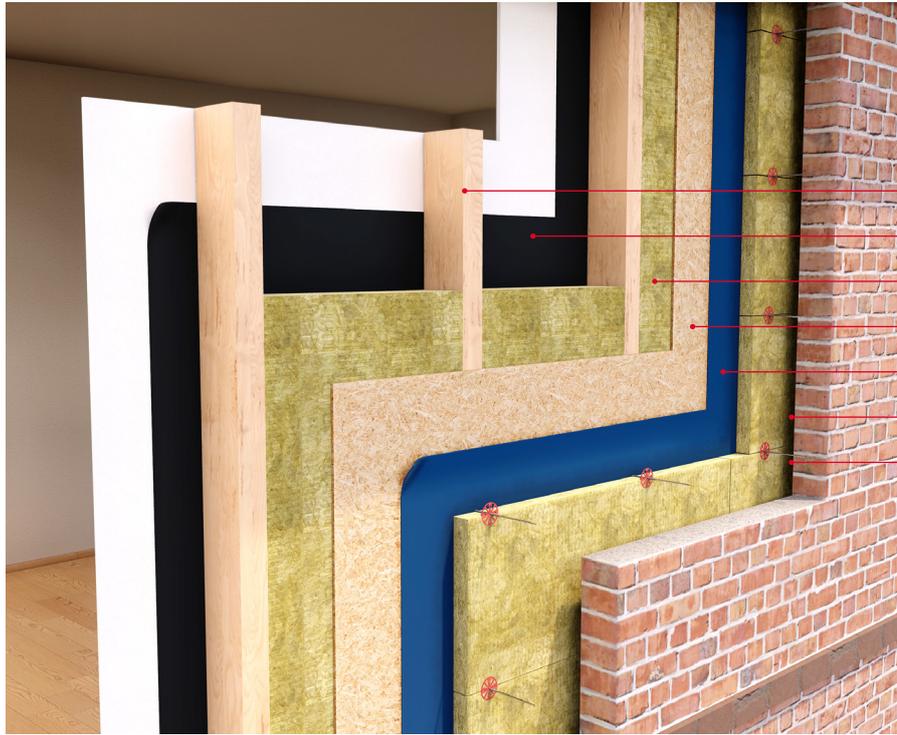


Figure 4

- Timber studs with 25mm service void
- Vapour control layer
- Timber Frame Slab insulation
- OSB
- Breather membrane
- RainScreen Duo Slab
- 50mm clear cavity

U-value (W/m ² K)	Timber Frame 034 Slab (mm)	Stud depth	RainScreen Duo Slab (mm)	Vapour control layer			Breather membrane
				Standard	Tyvek Airguard	Protect VC Foil Ultra	Standard
0.23	90	89	50	•	-	-	•
0.21	90	89	50	-	•	-	•
0.21	90	89	50	-	-	•	•
0.19	140	140	50	•	-	-	•
0.17	140	140	50	-	•	-	•
0.17	140	140	50	-	-	•	•

Thermal bridging is assumed at 15%, with the thermal conductivity of the studs being 0.12 W/mK.

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Vapour control and breather membranes – managing moisture

Vapour control membranes

A vapour control layer is essential on the 'warm' side of the insulation and frame, to reduce the risk of condensation forming inside the building. Thermal benefits can be achieved by using high performance vapour control membranes when they have a low emissivity reflective surface, and 20mm or more of non-ventilated air space. The benefit to the u-value can be seen in the performance tables.

The low emissivity R-values used in the calculations for the service zone are based on manufacturers claims:

- Standard VCL = 0.180 m²K/W
- TYVEK AirGuard = 0.680 m²K/W
- Protect VC Foil = 0.780m²K/W

Breather membranes

A vapour permeable membrane on the outside of the sheathing board is also necessary, this protects the timber frame from water penetration whilst allowing water vapour to escape. Again, enhanced thermal benefits are offered by reflective low emissivity membranes, where there is a clear air space of 20mm or more. The effect on the overall wall u-value can be seen in the tables.

The low emissivity R-values of the external cavity used in the calculations above are based on manufacturers claims:

- Standard breather membrane = 0.180m²K/W
- TYVEK Reflex = 0.540m²K/W
- Protect TF200 Thermo = 0.770m²K/W

For further U-Value calculations, and to download BIM models please visit:
www.rockwool.co.uk/technical-support/tools/U-value-Calculator/

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PRODUCT INFORMATION

Length (mm)	Width (mm)	Thickness (mm)
1200	570	Available in a range of sizes between 50mm and 200mm

*Thickness options may be subject to a minimum production volume. Speak to the specification team for guidance.

ADDITIONAL INFORMATION

Durability

ROCKWOOL stone wool is durable by nature. Sample testing from existing buildings shows that ROCKWOOL stone wool retains its performance for at least 65 years* without being affected by compression or temperature and humidity changes.

*FIW, Durability Project Mineral Wool (2016).

Water Resistance and Moisture

ROCKWOOL stone wool insulation resists water by nature, just like the stone from which it's made. It also resists moisture in humid climates, protecting the long-term health of buildings and the people within them.

Condensation

ROCKWOOL stone wool insulation allows the construction to breathe, reducing the risk of condensation, which can lead to rot, mould and humidity damage.

STANDARDS AND APPROVALS

Certificate
Timber Frame Slab satisfies the requirements of BS EN 13162 "Thermal insulation products for buildings. Factory made mineral wool (MW) products".
Manufactured under ISO 14001 Environmental Management Systems, and ISO 9001 Quality Management Systems.



INSTALLATION

Timber Frame Slabs are light and easy to install, sized to friction fit into 600mm on-centre timber studs without the need to cut or create waste. Any cutting that is required can be quickly and easily carried out, to fit awkward spacing, using a serrated knife or insulation saw.

The product must be installed in accordance with the current ROCKWOOL guidelines. For further information please visit www.rockwool.com/uk or contact our Technical Solutions Team on 01656 868490.

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BUILDING SAFETY AND PRODUCT USE

LEGAL NOTICES

General safety requirements – Building Safety Act 2022

ROCKWOOL Limited is committed to supporting specifiers, resellers and users of ROCKWOOL products for the full life cycle of the product to comply with the obligations and responsibilities set out in the Building Safety Act 2022. With regard to the general safety requirements of the Act, ROCKWOOL Limited cannot control or foresee every situation where its products might be used. We therefore strongly advise that specifiers, resellers and users contact us where use of ROCKWOOL products is contemplated in applications different from those explicitly described in the latest, relevant ROCKWOOL product datasheets; especially in applications that can be reasonably foreseen as critical to safety.

ROCKWOOL Limited reserves the right to amend the specification of its products without notice. Changes to the ROCKWOOL manufacturing process, or to pertinent regulations, may be reflected in changes to tested and certified product performance. Whilst ROCKWOOL Limited endeavours to keep its publications up to date, readers will appreciate that between publications there may be pertinent changes in the law or other developments affecting the accuracy of the information contained in our publications.

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The ROCKWOOL Trademark

ROCKWOOL® - our trademark

The ROCKWOOL trademark was initially registered in Denmark as a logo mark back in 1936. In 1937, it was accompanied with a word mark registration; a registration which is now extended to more than 60 countries around the world.

The ROCKWOOL trademark is one of the most important assets of the ROCKWOOL Group, and is therefore well-protected and defended by ROCKWOOL throughout the world.

If you require permission to use the ROCKWOOL logo for your business, advertising or promotion, you must apply for a Trade Mark Usage Agreement.

To apply, write to:
marketcom@rockwool.com

Trademarks

Registered trademarks of the ROCKWOOL Group include but are not limited to:

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ROCKWOOL stone wool - safe to install and live alongside

There are no hazardous classifications associated with stone wool insulation manufactured by ROCKWOOL-UK according to EU REACH and UK REACH regulations on health and the environment.

ROCKWOOL safe use instruction sheets and material safety data sheets (where applicable) can be downloaded [here](#).



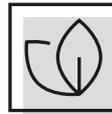
Sustainability

ROCKWOOL products are used to enrich modern living, creating safer, healthier and more climate-resilient communities.

We transform abundant, natural volcanic rock into stone wool insulation products that are used to reduce energy demand, lower fuel bills and help address society's climate change challenges.

ROCKWOOL stone wool insulation is recyclable and can be transformed into new ROCKWOOL products. Please contact us for details of how we can work together to recycle waste ROCKWOOL stone wool material that may be generated during on-site installation.

Our annual sustainability reports, which set out progress against our sustainability goals, and further details of the positive impacts of using our products can be found on our website.



Environment

ROCKWOOL takes a fact-based, auditable approach to documenting our progress in maximising our products' positive impact and minimising the effect our operations have on the environment, backed by third-party references and methodologies. Further details can be found online in our annual sustainability report.

Our high-tech production process uses filters, pre-heaters, after-burners and other cleaning and collection systems that help to reduce the effects of our manufacturing operations on the environment.

ROCKWOOL stone wool insulation does not contain (and has never contained) gases that have ozone depletion potential (ODP) or global warming potential (GWP).

