ROCKWOOL® Red Book

Comprehensive ROCKWOOL solutions guide for facades, walls, floors and roofs.

ROCKWOOL®

Navigating the ROCKWOOL Red Book

As an interactive guide, the ROCKWOOL Red Book provides direct access to hundreds of digital resources, helping to save you time by simplifying the specification of our facade, wall, floor and roof solutions.

Through the interactive product pages, navigate directly to:

- Product datasheets
- NBS Clauses

Simply look for hyperlinked text.

On each product page, a series of icons highlight where further technical documentation or calculation tools are available:

Acoustic calculator

U-value calculator

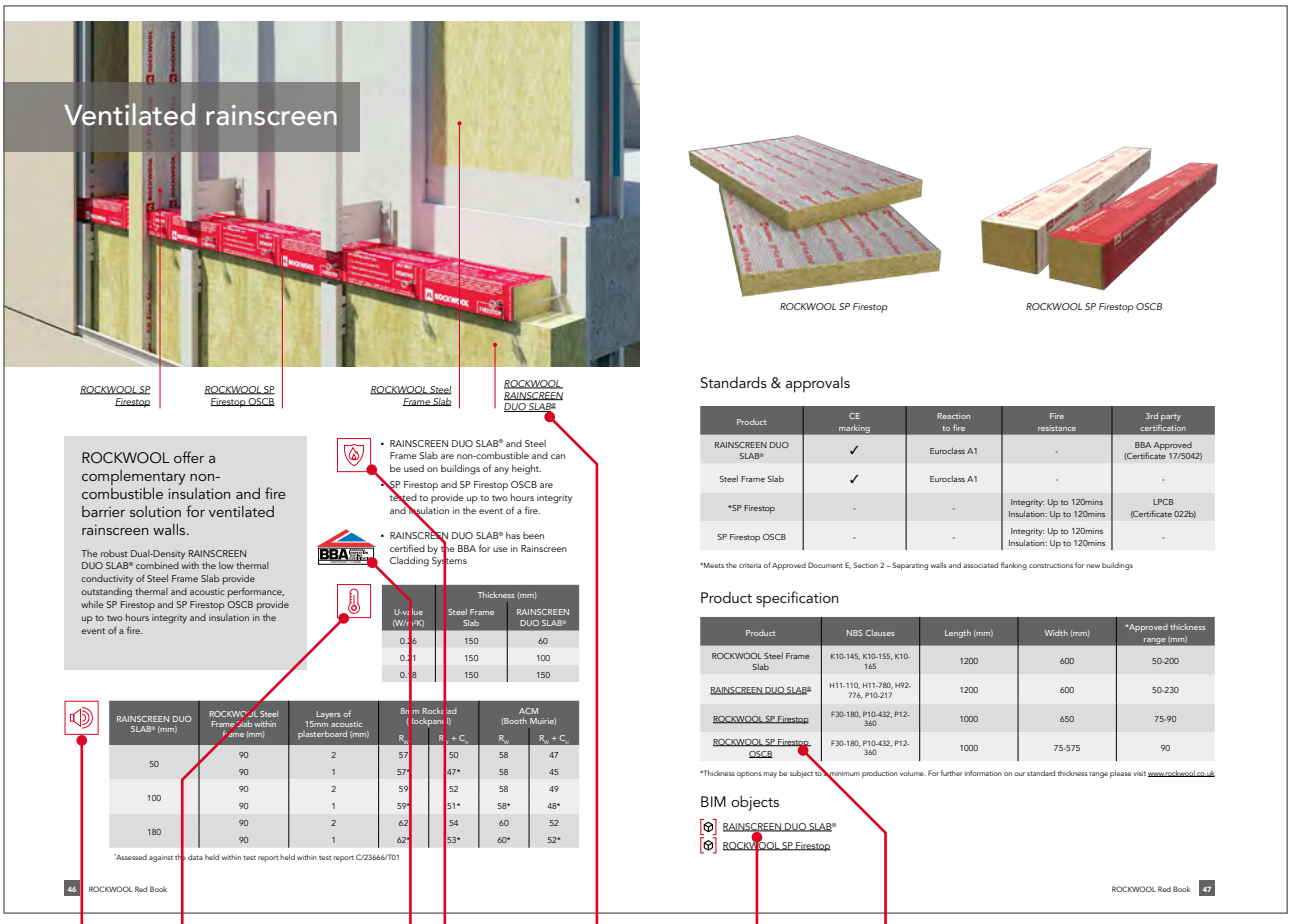
Declaration of Performance

BIM objects

BBA certification

To navigate back to the contents section, click on: ROCKWOOL Red Book **at the bottom of every page.**

The following shows where you can typically find each of the digital resources on the product pages:



Wherever further technical content is available, this will be denoted by a hyperlink. Throughout the guide you will also find additional practical resources and guides which will be indicated by the following icon:

[>]

If you need additional assistance with specifying ROCKWOOL solutions, please email technical.solutions@rockwool.co.uk or call 01656 868 490

Contents

	Page No.
Introducing the ROCKWOOL Red Book	6
Fire	
▪ Understanding fire properties	8
▪ Understanding reaction to fire	10
▪ Understanding fire resistance	12
▪ Understanding fire regulations	14
Thermal	
▪ Understanding thermal	16
▪ Understanding thermal regulations	18
Acoustics	
▪ Understanding acoustics	22
▪ Understanding acoustic regulations	24
▪ Built upon responsible business principles	26
Sustainability	
▪ Build to last	28
ROCKWOOL - the complete solution	30
Technical tools and resources	34
Solutions for every application	36
Facade & external wall solutions	
ETICS wall systems	40
Masonry cavity walls - full fill	42
Masonry cavity walls - partial fill	44
Timber frame walls	46
Steel framed walls	48
Separating walls	50
Ventilated rainscreen	52
Twin skin metal cladding	54
Flat roof solutions	
HARDROCK® Multi-Fix DD	58
Pitched roof solutions	
Cold pitched roofs	62
Warm pitched roofs	64
Floor solutions	
Ground floors - ground bearing slab	68
Ground floors - suspended beam & block	69
Ground floors - suspended timber	70
Separating floors - acoustic timber	72
Internal walls and floors	
Internal walls and floors - timber and metal stud	76
Case studies	78
The CPD programme	80
Additional resources	84
Legal disclaimer	85

Introducing the ROCKWOOL Red Book

Welcome to the ROCKWOOL Red Book – your comprehensive guide to specifying insulation solutions that perform in every building application.

The ROCKWOOL Red Book has been developed to provide a detailed technical resource which supports the specification of insulation solutions from a single source.

Saving time and simplifying the identification of insulation for through-wall, floor and roof constructions, the ROCKWOOL Red Book will guide you through key technical criteria and relevant performance data – helping to inform robust and compliant designs which simultaneously address fire, thermal, acoustic and sustainable requirements.

Use the ROCKWOOL Red Book to:

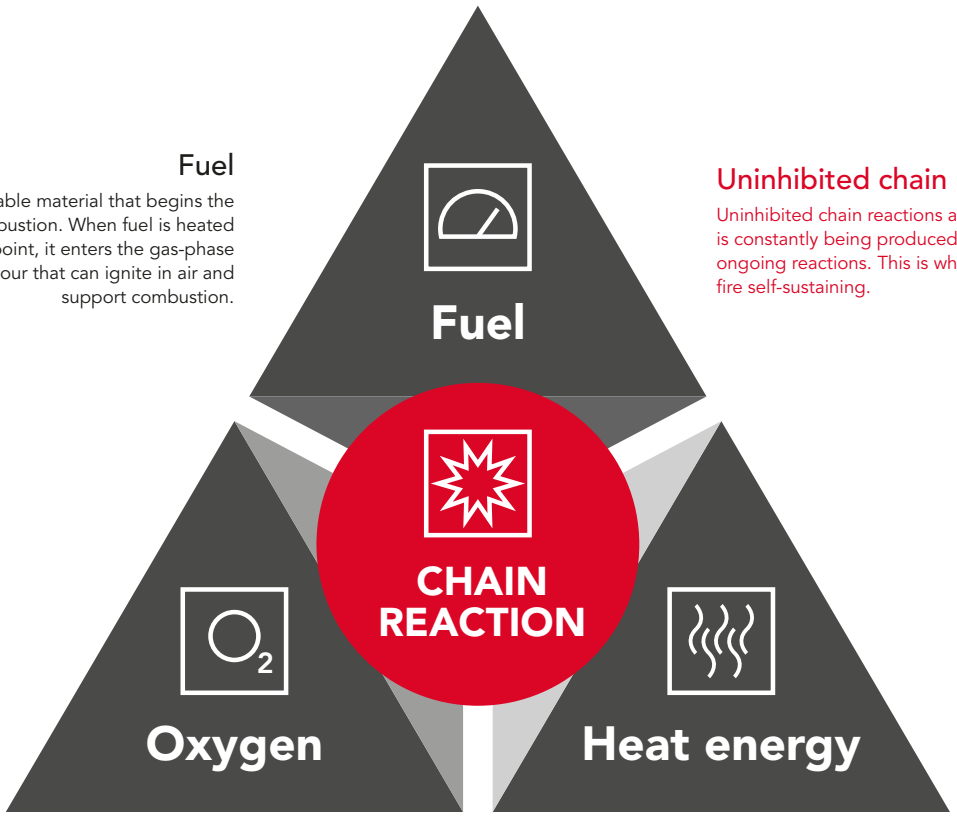
- Enhance your understanding of the current building regulations in relation to thermal, acoustic and fire performance – including Euroclass ratings – and build in-depth knowledge on the sustainable credentials of stone wool insulation.
- Easily navigate to the relevant construction sections to determine the most suitable ROCKWOOL solution to insulate through-wall, through-floor or through-roof build-ups.
- Access technical resources such as free online software and calculation tools to assist with modelling building performance and regulation compliance.
- Explore ROCKWOOL's essential construction CPD programme and select the sessions that will best enhance your building regulation and specification expertise.

Specify insulation solutions from a single source.

Understanding fire properties

Fuel

Fuel is a flammable material that begins the process of combustion. When fuel is heated past its flash point, it enters the gas-phase and releases vapour that can ignite in air and support combustion.



Uninhibited chain reaction

Uninhibited chain reactions are when heat is constantly being produced as a result of ongoing reactions. This is what makes the fire self-sustaining.

Oxygen

Oxygen supports burning due to oxidation. This is when gases released by fuel heat up, break apart, and recombine with oxygen. This is what causes burning to begin.

Heat energy

Heat energy is produced during combustion because the reaction is exothermic. Since these reactions are ongoing, combustion releases more than enough heat to make the fire self-perpetuating.

Removing one of the elements of the fire triangle will stop a fire.

Not all insulation materials react in the same way to fire and heat. A material's combustibility is determined by measuring results from a series of 'Reaction to Fire' tests which cover these key characteristics.

Only insulation materials with the lowest reaction to fire can achieve Euroclass A1 or A2-s1, d0 and will not, or significantly not, contribute to a fire. Materials deemed as combustible have the potential to be ignited and burned therefore a potential source of fuel in a fire.

When specifying building materials careful consideration needs to be given to the potential fire risk in buildings, with particular emphasis put on compartmentation to allow safe evacuation, reduce the risk of fire spread within the building and to enable access for fire fighters.

To be able to achieve this, it's important to fully understand the difference between the two types of fire classification related to the fire properties of the insulation material being specified and the building elements it's included within.

In order to determine the most effective methods for minimising and controlling the impact of building fires, it is important to understand the differences in which building materials and their structural elements are measured for fire performance.

Fire properties of building materials and their structure are measured and classified using two important factors, **reaction to fire and fire resistance.**

Understanding reaction to fire

This evaluates the contribution a material can make to fire growth and development which is particularly important in the early stages of a fire. The reaction to fire classification of building insulation is determined through a series of tests which measure performance against several key characteristics.

Heat release
Heat energy released during combustion

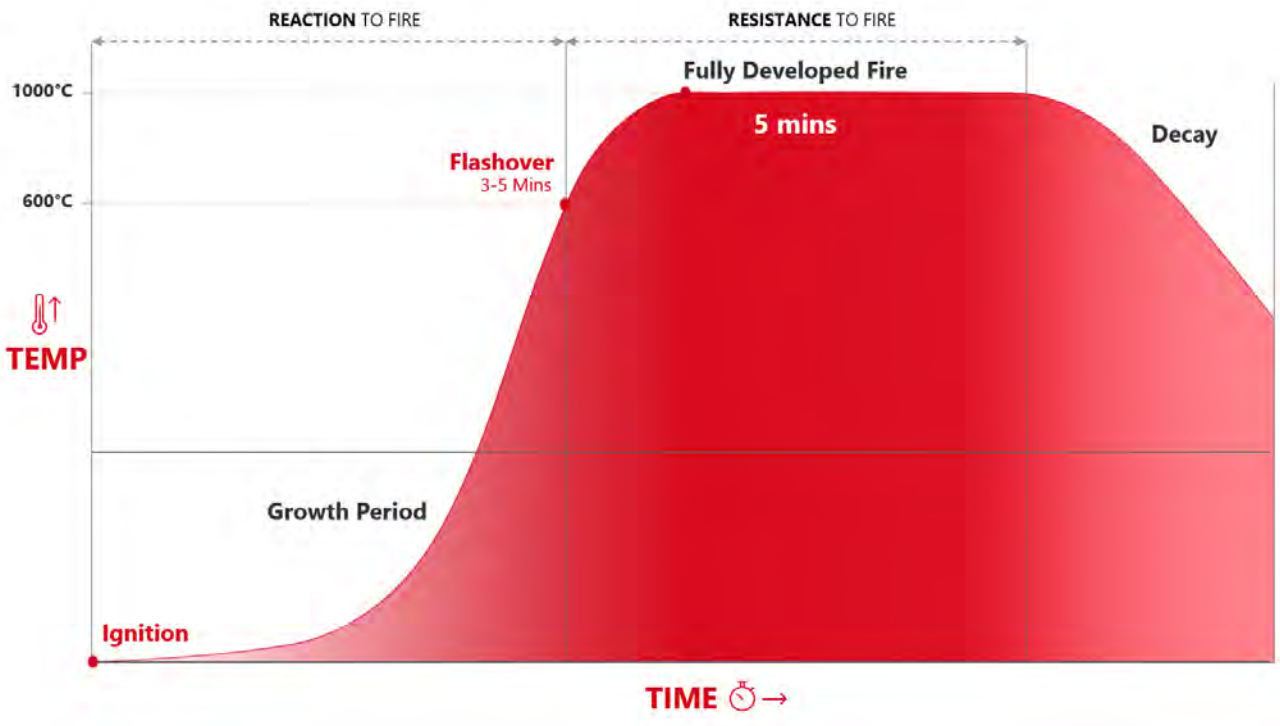
Character changes
Does the material melt, drip, or char?

Flame spread
The rate fire spreads across a surface

Smoke emission
The level of smoke produced when burning

Ignitability
Does the material catch fire?

Stages of Fire Development



The Euroclass System

The Euroclass Reaction to Fire system classifies building products in accordance with BS EN 13501-1. Using a product's Euroclass rating as guidance is the only way to determine a product's full Reaction to Fire performance. Products classified A1 or A2-s1, d0 are considered non-combustible and those classified B – F are considered combustible.

Euroclass	Combustibility
A1 **A2-s1, d0**	Non-combustible
B **C** **D** **E** **F**	Combustible

ROCKWOOL stone wool insulation is NON-COMBUSTIBLE, meaning it does not burn, does not contribute to fire growth and presents no smoke hazard.

Important points to remember…

- To be sure of a product's Euroclass rating, simply check its Declaration of Performance (DOP)
- All ROCKWOOL DoP's are available online at www.rockwool.com/uk/dop

DECLARATION OF PERFORMANCE No: UK-WER-0009-02_english

CE

CAVITY BATT http://dop.rockwool.com

1.	Unique identification code of the product-type	UK-WER-0009-02_english
2.	Intended use of the construction product as foreseen by the manufacturer, in accordance with the applicable harmonised technical specification	Thermal insulation for buildings
3.	Name, registered trade name or registered trade mark and contact address of the manufacturer, as required pursuant to Article 11(5) of regulation (EU) No 305/2011	ROCKWOOL® Limited Pencoed, Bridgend, CF35 6NY
4.	Applicable System or Systems of Assessment and Verification of Constancy of Performance (AVCP)	SYSTEM 1 for uses subject to regulations on reaction to fire SYSTEM 3 for all other intended uses
5.	Harmonised Standard reference number and date of issue	EN13162:2012+A1:2015 Issued on 28 February 2013
6.	Notified Body identification number	0086
7.	Declared Performances	Please refer to the table below (NPD – No Performance Determined)

Essential Characteristics	Requirement clauses in this European Standard	Level and/or classes	Declared value
Reaction to fire Euroclass characteristics	4.2.6 Reaction to fire	Euroclasses	A1
Release of dangerous substances to the indoor environment	4.3.13 Release of dangerous substances	–	NPD
Acoustic absorption index	4.3.11 Sound absorption	Declared α_p and α_w	NPD
Impact noise transmission index (for floors)	4.3.9 Dynamic stiffness	Declared s'	NPD
	4.3.10.2 Thickness, d_L	Declared d_L and T Class	NPD
	4.3.10.4 Compressibility c	Declared c and CP Level	NPD
	4.3.12 Air flow resistivity	Declared AF,	NPD
Direct airborne sound insulation index	4.3.12 Air flow resistivity	Declared AF,	NPD
Continuous glowing combustion	4.3.15 Continuous glowing combustion	–	NPD
Thermal resistance	4.2.1 Thermal resistance and thermal conductivity	Declared $R_{90/90}$ and/or $\lambda_{90/90}$	λ(90/90) = 0.037 W/mK
	4.2.2 Length and width	Declared l and b	±5mm and +6/-0mm
	4.2.3 Thickness	Declared d or tolerance class T	T2
	4.2.4 Squareness	Declared Sb	≤2.5 per 500mm
	4.2.5 Flatness	Declared Smax	≤6mm
Water permeability	4.3.7.1 Short term water absorption	Declared W(P)	WS
	4.3.7.2 Long term water absorption	Declared WL(P)	WL(P)
Water vapour permeability	4.3.8 Water vapour transmission	Declared μ or Z	MU1
Dimensional Stability	4.3.2 Dimensional Stability	Declared DS	
Compressive strength	4.3.3 Compressive stress or compressive strength	Declared CS Level	NPD
	4.3.5 Point load	Declared Fp	NPD
Durability of reaction to fire against heat, weathering, ageing/degradation	4.2.7 Durability characteristics[a]	[b]	NPD
Durability of thermal resistance against heat, weathering, ageing/degradation	4.2.1 Thermal resistance and thermal conductivity	Declared $R_{90/90}$ and/or $\lambda_{90/90}$ [c]	NPD
	4.2.7 Durability characteristics	[d]	NPD
Tensile/Flexural strength	4.3.4 Tensile strength perpendicular to faces [e]	Declared TR Level	NPD
Durability of compressive strength against ageing/degradation	4.3.6 Compressive creep	Declared X_{cc} and X_t	NPD

[a] No change in reaction to fire properties for mineral wool products.
[b] The fire performance of mineral wool does not deteriorate with time. The Euroclass classification of the product is related to the organic content, which cannot increase with time.
[c] Thermal conductivity of mineral wool products does not change with time, experience has shown the fibre structure to be stable and the porosity contains no other gases than atmospheric air.
[d] For dimensional stability thickness only.
[e] This characteristic also covers handling and installation.

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Ian Kellie
Production Director

At Bridgend on 24th May 2018

Essential Characteristics	Requirement clauses in this European Standard	Level and/or classes	Declared value
Reaction to fire Euroclass characteristics	4.2.6 Reaction to fire	Euroclasses	A1

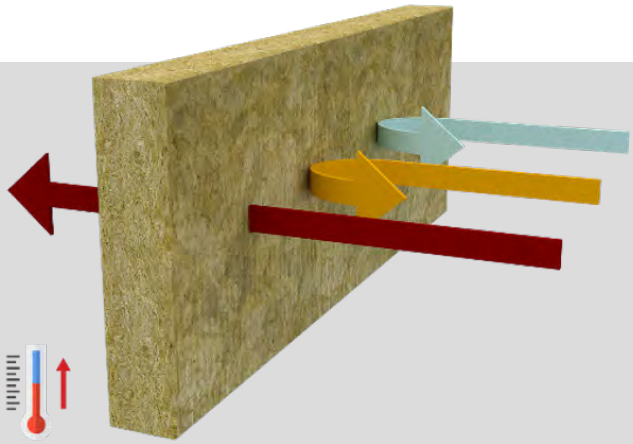
Understanding fire resistance

This measures the ability of a building structure or compartment to resist and prevent the passage of fire from one distinct area to another for a given time period.

In order to determine the level of fire resistance achieved by a product or system it must be tested for the application it is intended for and proven to perform for the fire resistance period required.

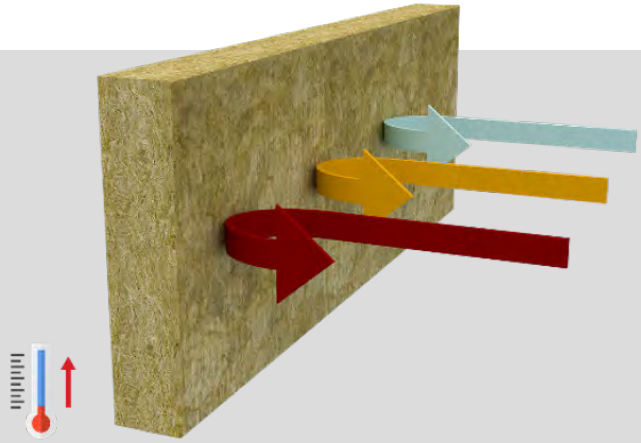
A typical fire resistance test will evaluate 3 key areas of performance:

In addition to measuring integrity and insulation ratings, a fire resistance test can also be used to determine the stability (R) of load bearing building elements.



Integrity (E)

The ability of a separating element of building construction; when exposed to fire on one side, to prevent the passage of flames and hot gasses passing through, and creating the occurrence of flames on the unexposed side.



Insulation (I)

The ability to maintain integrity without developing temperatures on its external surface, outside the compartment in which the fire is present, which exceed:

140°C as an average value above ambient and/or 180°C as a maximum value above ambient at any given point.

A combined approach to minimise risk

An approach to building design that increases the use of non-combustible building materials and ensures the use of appropriately tested passive fire protection measures is undoubtedly an effective method of slowing fire spread. Fully developed fires can occur within 5 minutes of ignition therefore it is vital that occupants are allowed enough time to escape safely, and fire fighters are given enough time to manage the incident.

From section 3,3 of Hackitt review:

Buildings are considered as a system, which in order to be safe requires every aspect of design, construction, refurbishment and maintenance to prioritise safety.

Understanding fire regulations

There are different regulatory frameworks covering different phases of construction of a building. They are primarily concerned with life safety.

Fire safety of buildings is covered by the following:

- During Construction - The Construction (Design and Management) Regulations 2015
- Performance of the Building – Approved Document B
- Management during occupation and use - Regulatory Reform (Fire Safety) Order
- Materials and workmanship - Approved Document 7 2013

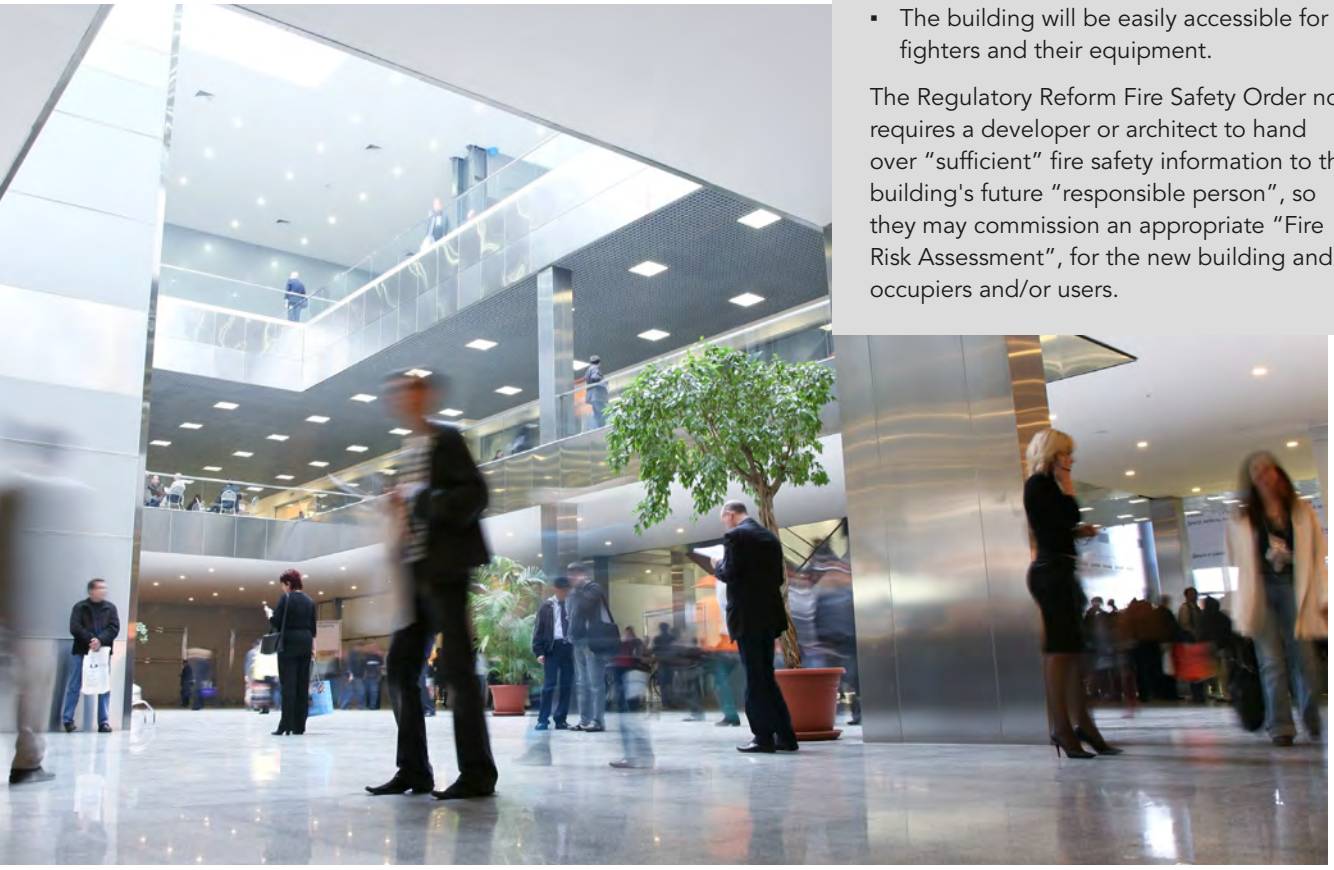
Approved Documents and Technical Guidance Documents offer guidance on how to comply with the Building Regulations across the UK and Ireland.

Technical guidance – Approved Document B (fire safety) Volume 1: Dwelling houses & Volume 2: Buildings other than dwelling houses

This practical guidance considers various aspects of fire safety in the construction of buildings:

- Requires safe means of escape from the building
- Requires the stability of a building to be maintained in a fire, both internally and externally
- Fire and smoke will be prevented from spreading to concealed spaces in a building's structure
- Externally - the external walls and roof will resist spread of fire to walls and roofs of other buildings
- The building will be easily accessible for fire fighters and their equipment.

The Regulatory Reform Fire Safety Order now requires a developer or architect to hand over "sufficient" fire safety information to the building's future "responsible person", so they may commission an appropriate "Fire Risk Assessment", for the new building and its occupiers and/or users.



Scotland

The standards and guidance in the fire safety section of the Technical Handbook (domestic) and Technical Handbook (non-domestic) are designed to work together to provide a balanced approach to fire safety. The purpose of the guidance in Section 2 is to achieve the following objectives in the case of an outbreak of fire within the building:

- To protect life
- To assist the fire and rescue services
- To further the achievement of sustainable development.

Areas covered include compartmentation, structural protection, cavities, internal linings and more.

Northern Ireland

Technical Booklet E (Fire Safety) is one of a series that has been prepared by the Department of Finance and Personnel (the Department) for the purpose of providing practical guidance with respect to the technical requirements of the Building Regulations (Northern Ireland) 2012 (the Building Regulations) and covers the following:

- Means of escape
- Internal fire spread (linings)
- Internal fire spread (structure)
- External fire spread
- Facilities and access for the Fire and Rescue Service

Republic of Ireland (ROI)

The provisions set out in Sections B1 to B5 of the Technical Guidance Document B, deal with different aspects of fire safety. The five sections are:

- Means of escape in case of fire
- Internal fire spread (linings)
- Internal fire spread (structure)
- External fire spread
- Access and facilities for the fire service

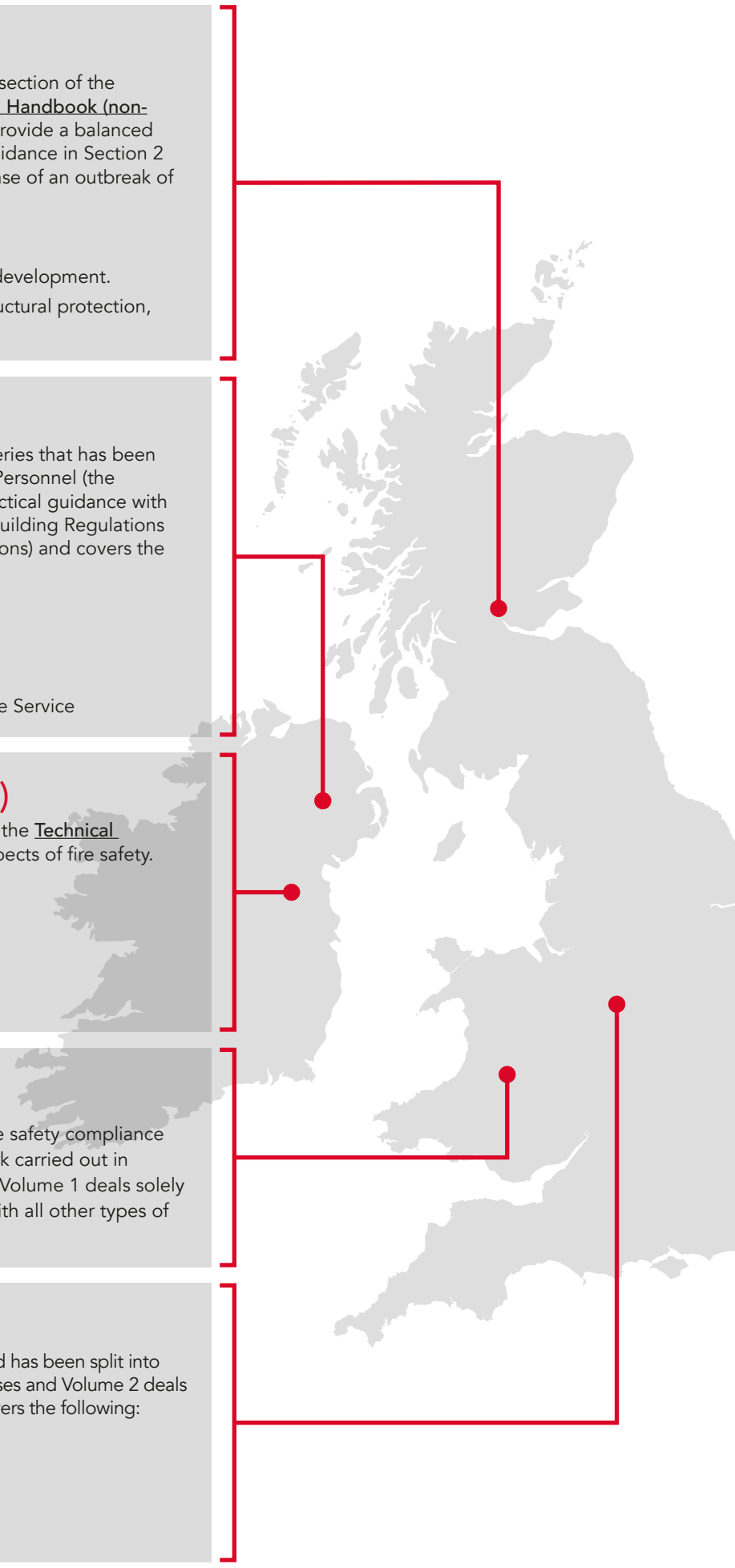
Wales

Approved Document B gives guidance for fire safety compliance with the Building Regulations for building work carried out in Wales. It has been published in two volumes. Volume 1 deals solely with dwelling houses, while Volume 2 deals with all other types of building covered by the Building Regulations.

England

Approved Document B addresses fire safety and has been split into two volumes. Volume 1 deals with dwelling houses and Volume 2 deals with buildings other than dwelling houses. It covers the following:

- Means of warning and escape
- Internal fire spread (linings)
- Internal fire spread (structure)
- External fire spread
- Access and facilities for the fire service



Understanding thermal

In practical terms, thermal is defined as relating to, caused by, or generating heat or increased temperature.

When constructing buildings, the main thermal design consideration is to maximise energy efficiency and occupant comfort by effectively controlling heat transfer.

Heat transfer occurs in one of three ways:

Conduction

The passage of heat through or within a material because of direct contact.

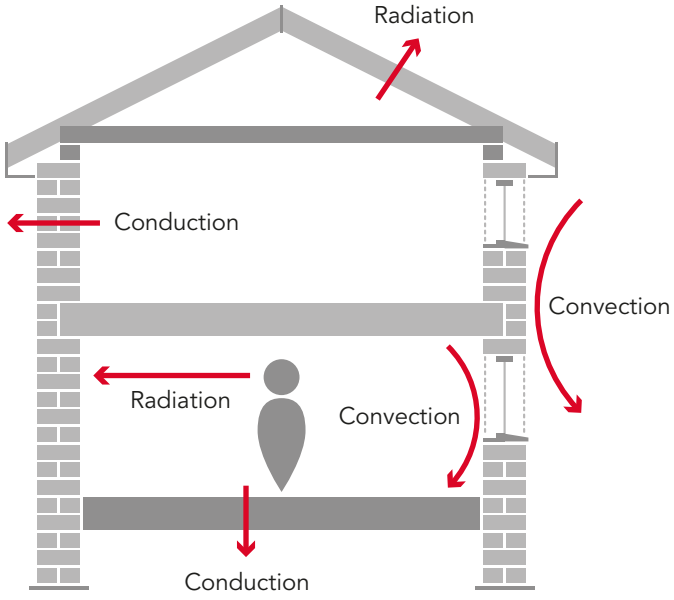
In conduction, the hottest object is the heat source, and the coolest is the heat sink. For example, heat within a house will travel from the warm side of the wall outwards to the cold side of the wall.

Convection

The transfer of heat via liquids or gases. For example, if you blow over a hot substance such as hot food, heat from the substance transfers to the air particles, cooling the hot substance and slightly warming the air. Therefore, gaps around windows or doors can reduce the internal temperature.

Radiation

Radiated heat goes out in all directions, unnoticed until it strikes an object. Radiation is a method of heat transfer that does not rely upon any contact between the heat source and the heated object, which means heat can easily be transmitted though empty space.



Measuring thermal

The unit of quantity of heat is the joule (J). Heat flow may be expressed as joules per second (J/s), but as a heat flow of one joule per second equals one watt, the unit watt (W) is adopted for practical purposes in calculating U-values.

The following summarises the main measurements to consider when evaluating the thermal performance of products in a building.

Properties	Unit	Expressed as	Measuring	Interpreting
Thermal transmittance	U-value	W/m²K (Watts per square metre, Kelvin)	Rate of heat loss of a building component.	The lower the U-value, the more efficient the construction.
Thermal conductivity	k or lambda value	W/mK (Watts per metre Kelvin)	Rate at which heat is transmitted through a material.	The lower the conductivity, the more thermally efficient a material is.
Thermal resistance	R value	m²K/W (metre square Kelvin per watt)	Rate at which a material resists heat flow.	The higher the R-value, the more efficient the insulation.

Controlling thermal transfer

Heat always flows from warmer to cooler surfaces until the temperatures of both surfaces become equal. As insulators reduce the flow of heat, materials which insulate are one of the most effective methods of controlling heat transfer.

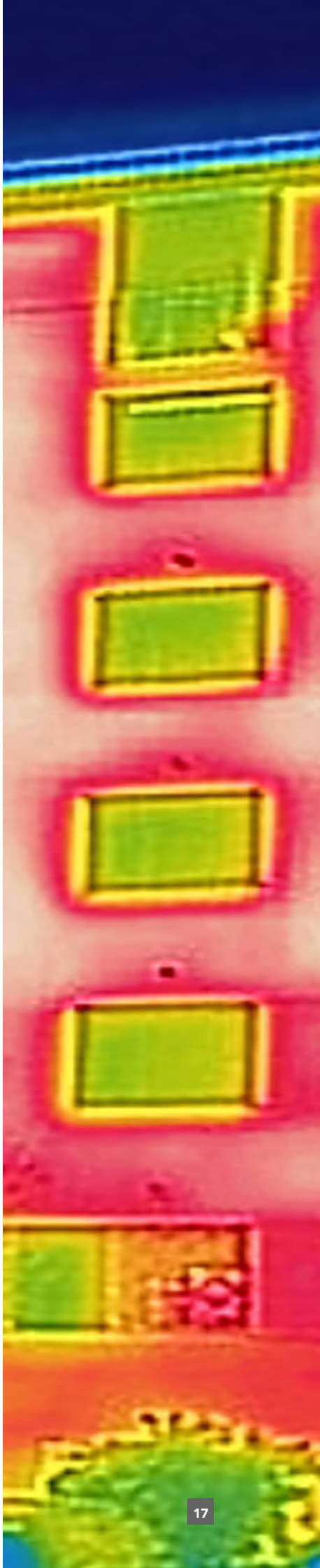
For construction purposes a material is defined as insulating if its thermal conductivity is less than 0.065 W/mK.

Importance of thermal performance

In many homes, insulation is the most practical and cost-effective way to make a house more energy efficient, keeping it cooler in summer and warmer in winter. In some cases, this will save up to 80% in heating and cooling losses.

This results in a reduced environmental impact by reducing the carbon footprint and minimising the amount of greenhouse gasses released into the environment.

In addition to building owners seeking to reduce energy costs and achieve a comfortable interior environment, legislation is becoming increasingly stringent in relation to controlling energy consumption. This is reflected in the various building regulations which govern fuel and power conservation in both domestic and non-domestic properties.



Understanding thermal regulations

Limiting heat gain and heat loss through the building fabric is a fundamental requirement of the Building Regulations and critical for maintaining energy efficiency. The energy performance and carbon emissions of buildings are assessed using one of two calculations depending on the building type:

1. SAP (Standard Assessment Procedure) – Domestic

2. SBEM (Simplified Building Energy Modelling) – Non-domestic

Fundamentals of both are the same. They calculate energy cost and carbon emissions for the purposes of demonstrating compliance with building regulations. Each of the calculations measure four criteria:

For SAP (domestic):

- The elements of structure
- The heating and hot water system
- The internal lighting
- The renewable technologies used in the home

For SBEM (non-domestic):

- Measuring the Building Emission Rate (BER) against the Target Emission Rate (TER)
- Assessing building fabric, HVAC systems, hot water and lighting for energy efficiency
- Demonstration of passive measures to limit solar gains during summer months
- Ensuring provisions are in place to enable energy efficient operation

Thermal regulations across England, Scotland, Wales, Northern Ireland and the Republic of Ireland can be split into two main categories with sub-sections as described below:

Conservation of fuel and power in dwellings

- New dwellings
- Existing dwellings: extensions
- Existing dwellings: refurbishment, renovation and thermal upgrade

Conservation of fuel and power in buildings other than dwellings

- New buildings other than dwellings
- Existing buildings other than dwellings: extensions
- Existing buildings other than dwellings: refurbishment, renovation and thermal upgrade

The following tables provide a summary of the notional U-values as described within the following documents:

England:	ADL1 (2021), ADL2 (2021)
Scotland (Domestic / Non-domestic):	Technical Handbook 2019 - Section 6
Wales:	ADL1 (2022), ADL2 (2022)
Republic of Ireland:	Technical Guidance Document L
Northern Ireland (Booklet F1 / F2):	Technical Booklet F1 & F2

*Table 1a: Dwellings (new)

Fabric element	Part L1 2021 (England)	Section 6 2022 (Scotland)	Part L1 2022 (Wales)	Technical Guidance Document L 2022 (Ireland)	Technical Booklet F1 2022 (Northern Ireland)
Wall	0.18 W/m²K	0.15 W/m²K	0.13 W/m²K	0.13 W/m²K	0.15 W/m²K
Roof	0.11 W/m²K	0.09 W/m²K	0.11 W/m²K	0.11 W/m²K	0.13 W/m²K
Floor	0.13 W/m²K	0.12 W/m²K	0.11 W/m²K	0.14 W/m²K	0.13 W/m²K
Party Wall	0.00 W/m²K	0.00 W/m²K	0.00 W/m²K	-	0.20 W/m²K

**U-values quoted are notional values taken from each standard for a typical dwelling specification. Refer to the individual standards for more detailed information.*

*Table 1b: Dwellings (existing)

Fabric Element	Part L1 2021 (England)		Section 6 2022 (Scotland)		Part L1 2022 (Wales)		Technical Guidance Document L 2022 (Ireland)		Technical Booklet F1 2022 (Northern Ireland)	
	Extension (W/m²K)	Thermal upgrade (W/m²K)	*Extension (W/m²K)	Thermal upgrade (W/m²K)	Extension (W/m²K)	Thermal upgrade (W/m²K)	Extension (W/m²K)	Thermal upgrade (W/m²K)	Extension (W/m²K)	Thermal upgrade (W/m²K)
Wall	0.18	0.55 (cavity) 0.30 (external or internal)	0.17	0.17	0.18 (houses) 0.21 (flats)	0.55 (cavity) 0.30 (external or internal)	0.18	0.55 (cavity) 0.35 (other)	0.28	0.55 (cavity) 0.30 (external or internal)
Pitched roof - ceiling	0.15	0.16	0.12	0.12	0.13	0.16	0.16	0.16	0.16	0.16
Pitched roof - rafter	0.15	0.16	0.12	0.12	0.13	0.16	0.16	0.25	0.18	0.18
Flat roof	0.15	0.16	0.12	0.12	0.13	0.16	0.20	0.25	0.18	0.18
Floor	0.18	0.25	0.15	0.15	0.15	0.25	0.18	0.45 (ground floors) 0.25 (other exposed floors)	0.22	0.25

**U-values quoted in this table are the limiting U-values for each nation.*

*Table 2a: Buildings other than dwellings (new)

Fabric Element	Part L2 2021 (England)	Section 6 2022 (Scotland)	Part L2 2022 (Wales)	Technical Guidance Document L 2022 (Ireland)	Technical Booklet F2 2022 (Northern Ireland)
Wall	0.26 W/m²K	0.21 W/m²K	0.26 W/m²K	0.21 W/m²K	0.21 W/m²K
Roof	0.16 W/m²K (pitched) 0.18 W/m²K (flat)	0.16 W/m²K	0.20 W/m²K	0.16 W/m²K (pitched) 0.20 W/m²K (flat)	0.16 W/m²K (pitched) 0.20 W/m²K (flat)
Floor	0.18 W/m²K	0.18 W/m²K	0.22 W/m²K	0.21 W/m²K	0.21 W/m²K

**U-values quoted in this table are the limiting u-values for each nation.*

*Table 2b: Non-dwellings (existing)

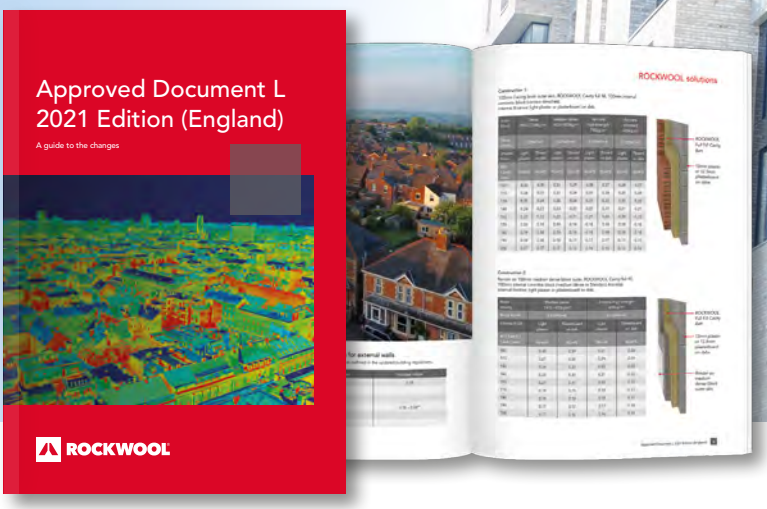
Fabric Element	Part L2 2021 (England)		Section 6 2022 (Scotland)		Part L2 2022 (Wales)		Technical Guidance Document L 2022 (Ireland)		Technical Booklet F2 2022 (Northern Ireland)	
	Extension (W/m²K)	Thermal upgrade (W/m²K)	*Extension (W/m²K)	Thermal upgrade (W/m²K)	Extension (W/m²K)	Thermal upgrade (W/m²K)	Extension (W/m²K)	Thermal upgrade (W/m²K)	Extension (W/m²K)	Thermal upgrade (W/m²K)
Wall	0.26	0.55 (cavity) 0.30 (external or internal)	0.21	0.21	0.21 (domestic in character) 0.26 (all other buildings)	0.55 (cavity) 0.30 (external or internal)	0.21	0.55 (cavity) 0.35 (other)	0.21	0.55 (cavity) 0.30 (external or internal)
Pitched roof - ceiling	0.16	0.16	0.16	0.16	0.15 (domestic in character) 0.15 (all other buildings)	0.16	0.16	0.16	0.16	0.16
Pitched roof - rafter	0.16	0.18	0.16	0.16	0.15 (domestic in character) 0.18 (all other buildings)	0.18	0.16	0.25	0.16	0.18
Flat roof	0.18	0.18	0.16	0.16	0.15 (domestic in character) 0.18 (all other buildings)	0.18	0.20	0.25	0.20	0.18
Floor	0.18	0.25	0.18	0.18	0.18 (domestic in character) 0.22 (all other buildings)	0.25	0.21	0.45 (ground floors) 0.25 (other exposed floors)	0.21	0.25

**U-values quoted in this table are the limiting U-values for each nation.*

YOUR GUIDE TO APPROVED DOCUMENT L

The straightforward guide to new Approved Document L 2021 (England) from ROCKWOOL.

- Analyse key changes to thermal regulations for new and existing buildings at-a-glance
- Explore real-world substrate construction examples to help meet and exceed requirements



Download now:

rockwool.com/uk/adl

ROCKWOOL®

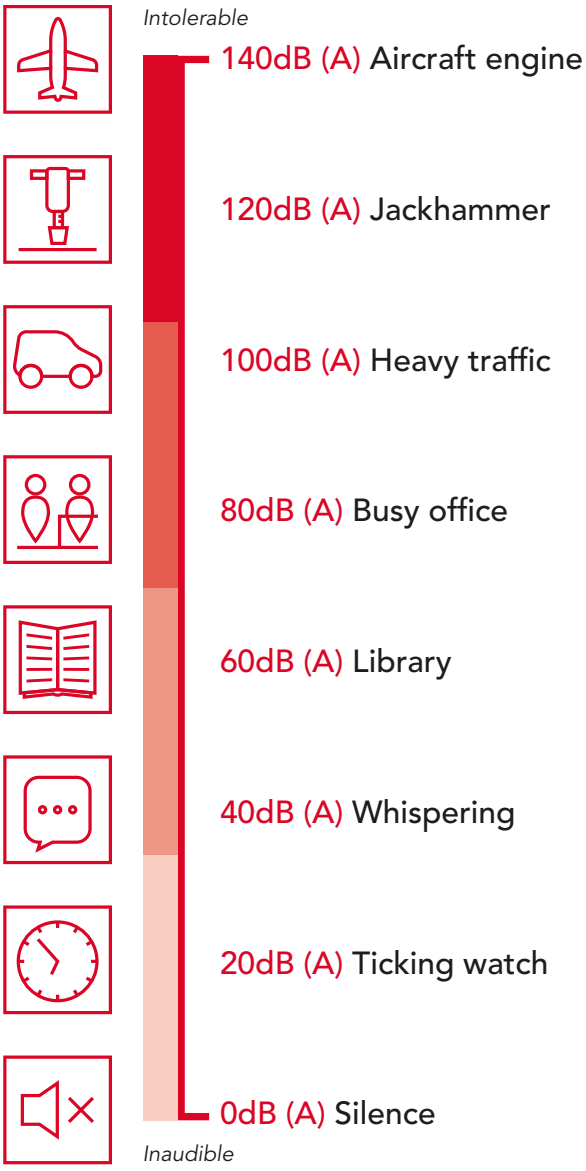
www.rockwool.com/uk

Understanding acoustics

Sound is described as 'a disturbance in an elastic medium resulting in an audible sensation.' Noise is defined as 'unwanted sound' – more commonly referred to as 'nuisance noise'.

Measuring sound

Sound is measured in decibels (dB). The following scale depicts a range of sound levels as audible by people.



Sources of sound or noise within a building fall into one of two categories:

Airborne

Transmitted through the air and atmosphere. Typical examples include talking, sounds from radio and television or cars travelling down a road.

Impact

The physical impact on buildings or solid materials. Typical examples include footfall, doors banging, walking and furniture moving.

Controlling sound

When sound cannot be managed at the source, one of the most effective ways of controlling sound is to reduce its transfer. Sound reduction can take place from external sources into a building, through external walls and roofs, as well as between internal spaces with partitions, separating walls and floors.

The ability of walls, floors or roofs to resist the passage of sound energy is determined by three factors:

- The sound absorbency of any cavities (airborne sound)
- The area mass (kg/m²) of the separating element (airborne sound)
- The structural isolation of elements within the element (impact sound)

The level of sound reduction achieved between spaces is also measured in dB.

When designing and constructing buildings that are fit for purpose, adequately controlling sound levels by reducing transfer is just as important for comfort as it is for regulation compliance.

Importance of acoustics

Noise pollution is a major environmental problem which affects thousands of people living in UK towns and cities.

With an ever-increasing demand for housing and the need for space efficiency many of today's residential units are built in close proximity to significant sources of noise which include; road traffic, railway networks, air traffic and even other construction sites.

As we move into inner cities our exposure and proximity to external noise sources increases significantly.

Exposure to high levels of noise affects everyone a little differently. Children in general are more sensitive to excessive levels of noise, along with the chronically ill or elderly people. Adults who work in especially noisy environments also experience higher levels of stress and fatigue. Disturbed sleep patterns due to noise pollution can lead to health problems which can be more serious for children as it can impair childhood development.

In the UK, acoustic standards in construction are governed by Approved Document E (England and Wales), Approved Document G (Northern Ireland), Technical Guidebook Domestic Section 5 (Scotland) and Technical Guidance Document E (Ireland).

Did you know?

Noise pollution costs the British economy around £20 billion annually in economic, social, and health costs.[1]

[1] *European Environment Agency, 2014.*

Understanding acoustic regulations

Acoustic requirements between UK countries and the Republic of Ireland whilst similar, do vary and it is important to ensure the appropriate regulations and guidance are followed. The correct regulatory requirements can be found for each country, in the following guidance documents:

- England & Wales Approved Document E
- Northern Ireland – Approved Document G
- Scotland – Technical Handbook – Domestic: Section 5 (Domestic / Non-domestic)
- Republic of Ireland – Technical Guidance Document E

Whilst notional values may differ, the fundamental requirements can be divided into two core areas:

- **Separating constructions** – Protection against sound from other parts of the building and/or adjoining buildings.
- **Single dwellings** - Protection within a single dwelling e.g. house or flat whether purpose-built or formed by material change of use.

The requirements for each construction will be met by achieving the sound insulation values set out in Table 1 and/or Table 2. It is important to note that to demonstrate compliance for separating constructions (Table 1) on-site pre-completion testing is required. Pre-completion on-site testing is not required for constructions within single dwellings (Table 2).

Performance requirements are now more stringent due to the addition of a low frequency correction factor (Ctr) which must be applied to the pre-completion measure of airborne sound. The new values will therefore be more difficult to achieve for many types of construction.

Please note that the associated flanking constructions should be followed, and that the person carrying out the building work should arrange for sound insulation testing to be carried out by a test body with appropriate third-party accreditation.

Table 1 - Separating construction:
Protection against sound from other parts of a building and/or adjoining buildings.

	Approved Document E (England & Wales)/ G (Northern Ireland)			
	Airborne $D_{nT,w} + C_{tr}$ dB (minimum values)		Impact $L'_{nT,w}$ dB (maximum values)	
	New build	Change of use	New build	Change of use
Walls	45 (*43)	45	-	-
Floors & stairs	45	43	62	64
	Technical Handbook Domestic Section 5 (Scotland)			
Walls	**56	***53	-	-
Floors & stairs	**56	***53	**56	**58
	Technical Guidance Document E (Ireland)			
Walls	53	53	-	-
Floors & stairs	53	53	53	58

*Lower limit applies only to 'rooms for residential purposes' **Applies to new build and conversions of non traditional buildings ***Applies to conversions of traditional buildings

Table 2 - Single dwelling:
Houses, flats and rooms for residential purposes, whether purpose-built or formed by material change of use.

	Airborne Sound Insulation Rw dB (maximum values)		
	Approved Document E (England & Wales)/G (Northern Ireland)	Technical Handbook Domestic Section 5 (Scotland)	Technical Guidance Document E (Ireland)
Walls	40	40	See Table 1 - Separating constructions
Floors & stairs	40	43	

Introducing ROCKWOOL SoundPro

Build acoustic insulation into design

ROCKWOOL SoundPro is a new guide to support specifiers in designing acoustic insulation into education and residential buildings.

Use it to:

- Understand the importance of good acoustic design
- Learn how to enhance the acoustic capabilities of building projects
- Summarise acoustic regulations for England, Wales, Scotland and Ireland
- Specify the latest ROCKWOOL solutions that provide acoustic benefits

Download now:

rockwool.com/uk/soundpro

ROCKWOOL®

rockwool.com/uk

ROCKWOOL - built upon responsible business principles

Sustainability is integral to our business strategy. We pursue a fact-based, auditable approach backed up by third-party references and methodologies to document progress in maximising our products' positive impact and minimising the impact of our operations.

Our approach is based on three principles:

Using less energy & materials:

We do this through the circularity of our products and the significant reduction in energy and resources our products save in their lifetime.

We continually improve the energy efficiency of our own operations.

Greening the rest:

By saving energy in buildings and our own operations, and transitioning to renewable energy sources.

Addressing climate hazards:

By thinking ahead and maximising the performance of existing products and innovating new ones, we are addressing many climate-related hazards, such as fires, flooding, asset risks, and fossil fuel dependency. We are also reducing our own fossil fuel dependency with an ambitious decarbonisation strategy.

Creating sustainable operations

As a result of our products' use in 2022, we continued to have a significant positive impact, among other ways by creating more energy- and carbon-efficient buildings, more efficient food production and more acoustically sound buildings.

In 2022, having deeply renovated an additional nine offices, we met our energy efficiency in owned offices intermediate goal. This means that we have fulfilled all five intermediate sustainability goals with baseline 2015. For a number of these, we are well on the way to achieving our 2030 goals.

Visit www.rockwool.com/uk/sustainability
to read the ROCKWOOL Sustainability Report 2022

Sustainable products, supporting sustainable construction

We manufacture sustainable, infinitely recyclable products, and make a significant contribution to clients' sustainability targets, extending far beyond energy savings in the built environment:

Carbon positive

In its lifetime ROCKWOOL insulation will save around 100 times more carbon dioxide than is emitted during its production. ROCKWOOL insulation becomes 'net carbon positive' with the carbon emitted during manufacturing offset within a year. This is achieved as ROCKWOOL high performance insulation improves building performance and reduces emissions.

Environmental Product Declarations (EPDs)

ROCKWOOL advocates for the use of Environmental Product Declarations (EPDs), which are based on the principle of life-cycle-assessment. EPDs cover the manufacturing process as well as upstream impacts including the extraction and transport of the raw materials, and the downstream impacts such as product transport, maintenance, and disposal options at end-of-life. An EPD provides a range of indicators such as global warming potential or resource depletion, which can be used as inputs to Design Tools to achieve a required sustainability performance for a building. ROCKWOOL provide EPDs for all UK manufactured stone wool insulation.

Naturally sustainable

ROCKWOOL products are created from volcanic rock. By far the most abundant natural resource on Earth, it is both durable and recyclable.

Infinitely recyclable

ROCKWOOL is recyclable and can be recycled again and again without any degradation of quality. Waste can be transformed into new ROCKWOOL products, and the dedicated UK recycling facility enables contractors and builders to recycle unused materials.

Circularity in construction – reducing our impact

ROCKWOOL applies lifecycle thinking and a circular economy approach to help reduce our environmental impact as we grow. We use an abundant material and engineer it to perform consistently for decades, whilst our solutions enhance the sustainability of the societies that use them. Our production processes are guided by ambitious sustainability goals to minimise our impact, and we are making great progress. We are growing our recycling services and recycle other industries' waste too by using it as a substitute for virgin raw material. We believe that it's possible to expand our business and communities whilst reducing our impact.

The circularity aspects of our products

Build to last

Insulation plays a major role in improving the energy efficiency of buildings and reducing carbon emissions, which means the longer a material can maintain its performance – the better it is for the environment.

While Life Cycle Assessments of buildings can assist specifiers in evaluating how construction products will perform over time, independent testing provides an additional route for verification, and more importantly – access to reliable performance data.

For stone wool insulation, independent testing was undertaken by Eurima – the European Mineral Wool Manufacturers Association. To demonstrate the durability of mineral wool insulation, Eurima initiated a project with FIW, a third-party laboratory, which followed a strict sampling procedure and testing method.

Scoping out stone wool performance

Focusing on insulation installed in walls and roofs, which included ROCKWOOL stone wool materials, the Eurima research examined:

- Existing buildings, unaffected by structural damage, aged 20 to 55 years
- Insulation materials extracted from buildings by an independent third-party laboratory
- Usability of the aged materials, and consequently their durability

Results were compared with the original aged product specification sheets, valid at the time they were produced.

Tests were carried out with densities ranging from 30-150kg/m³ and against the following standards:

Walls:

- Thickness (to EN 823)
- Density (to EN 1602)
- Moisture content (to EN ISO 12570)
- Thermal conductivity (to EN 12667)
- Compressive strength (to EN 826)
- Water absorption (to EN 12087 and/or EN 1609)

Roofs:

- Thickness (to EN 823)
- Density (to EN 1602)
- Moisture content (to EN ISO 12570)
- Thermal conductivity (to EN 12667)
- Compressive strength (to EN 826)
- Tensile strength (to EN 1607)
- Point load behaviour (to EN 12430)
- Water absorption (to EN 12087 and/or EN 1609)

65 years' durability – determined by research

In tests on materials from real-life construction sites, it has been shown to retain its insulating properties for more than 65 years[1] without a drop in performance.

[1] *Testing done at Danish Technical Institute (DTI) in 2023.*

Combining laboratory research and real word design

The long-term performance of stone wool insulation is well evidenced by the Eurima study, but how does this translate into modern building design, and how do the findings align with current standards?

Declaration of Performance

Durability Characteristics as covered by section 4.2.7 of the relevant harmonised (hEN) product standard*, state that the thermal resistance, thermal conductivity and reaction to fire performance 'do not change with time'.

This means that there is no requirement to make a declaration of aged performance on these parameters. However, the Eurima report provides evidence of performance over time, should it be needed.

*BS EN 13162:2012+A1:2015

Service life

For over 80 years, ROCKWOOL has been producing stone wool insulation for the construction industry, which means our products are installed in buildings that were constructed almost eight decades ago.

The suggested service life of insulation, as detailed in Annex D of BS 7543, is 60 years. However, the Eurima report now provides valuable real data which demonstrates that stone wool insulation maintains performance with no degradation, even after 65 years.

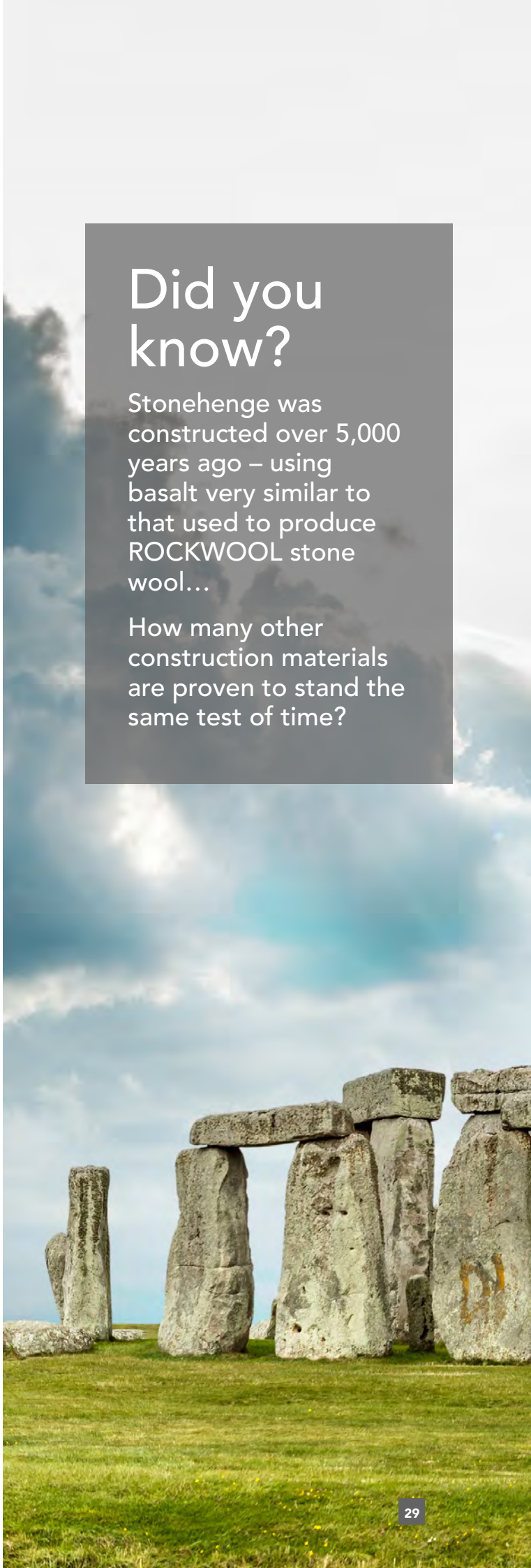
Fitness of materials

Section 1: Materials, of Regulation 7 references several ways to establish the fitness of materials, including CE Marking, the Construction Products Regulations, independent certifications, schemes, tests, calculations and past experience. Carried out by an independent EU notified body, the Eurima research provides verified evidence that stone wool insulation performs in the long term.

Did you know?

Stonehenge was constructed over 5,000 years ago – using basalt very similar to that used to produce ROCKWOOL stone wool…

How many other construction materials are proven to stand the same test of time?



ROCKWOOL - the complete solution

The complexities of navigating a route to Building Regulation compliance are greatly simplified by specifying ROCKWOOL as an all-encompassing insulation solution – best defined by the strengths of stone.

Fire-resilience

ROCKWOOL insulation is extremely resilient to fire and can withstand temperatures in excess of 1000°C. It works to contain fire and prevent its spread.

At the same time, it does not contribute to the emission of significant quantities of toxic smoke.

Thermal properties

ROCKWOOL products derive their thermal properties from tiny pockets of air trapped within the physical structure of the stone wool. These air pockets allow the insulation to keep hot air out in hot climates and to retain warm air in cold climates. This can dramatically reduce heating, cooling, and ventilation costs, and reduce a building's carbon footprint.

Durability

ROCKWOOL insulation has a built-in robustness that is totally unique. It keeps its shape and toughness in all conditions; this means that compression, impacts and changes in temperature or humidity do not affect it. Its dimensional stability means its performance is unchanged, decade after decade, ensuring maintenance savings throughout a building's lifetime.

Acoustic capabilities

ROCKWOOL products can be manufactured in a range of densities and we have a library of acoustic test data with proven noise reduction.

Circularity

ROCKWOOL products can be easily removed when a building is renovated, or demolished and recycled back into new products. In fact, stone wool can be recycled again and again into new stone wool.


WE ARE THE INNOVATORS
NyRock® technology has arrived
ROCKWOOL®
NEW PRODUCTS LAUNCHED
FIND OUT MORE
www.rockwool.com/uk/NyRock

INTRODUCING NYROCK® TECHNOLOGY

The lowest lambda stone wool insulation in the UK
NyRock technology is an evolution in stone wool composition that delivers the lowest lambda stone wool insulation available in the UK.

Choose NyRock products to benefit from:

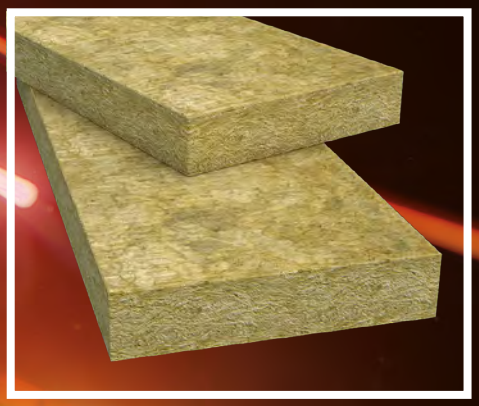
- Lower lambda for thinner walls
- Highest thermal performance available from a stone wool product
- Non-combustibility
- All the key benefits of the strengths of stone

"Our new products featuring NyRock technology will be significant for the construction industry, giving specifiers and building owners a true solution to the rapidly evolving needs of the built environment and its biggest challenges whether thermal, fire, acoustics or environmental."

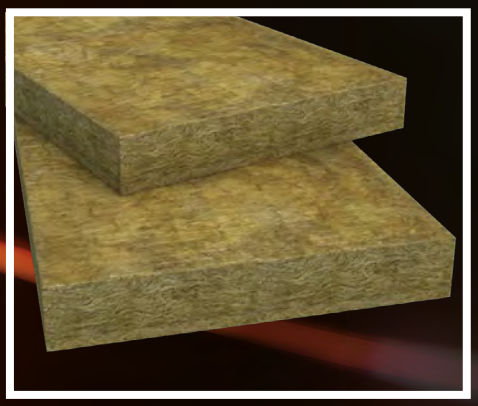
Paul Barrett, Head of Product Management,
ROCKWOOL

NyRock technology will be rolled out across a range of ROCKWOOL insulation solutions during 2022.

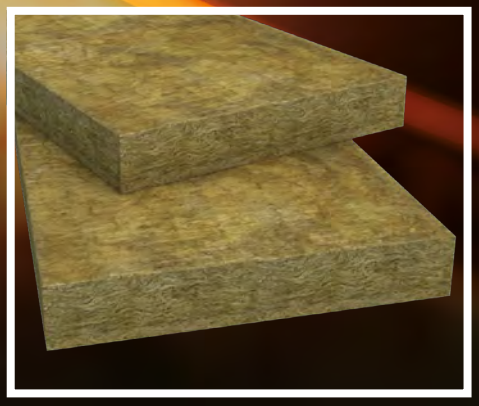
Available now:



NyRock Rainscreen 032



NyRock Frame Slab 032



NyRock Cavity Slab 032

LEARN MORE AT:

rockwool.com/uk/nyrock-technology

Technical tools and resources

To assist you in the best possible way, we offer a range of free tools ranging from online software for calculating energy and heat loss to a materials calculator and much more.

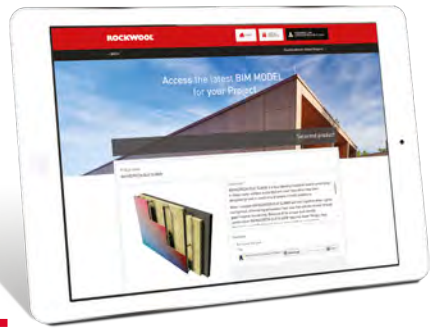
Whether you are still at the beginning of your project or need technical support throughout, we are here to help along the way.

Fire Stopping Standard Details Guide [>]

The ROCKWOOL Fire Stopping Standard Details Guide provides in-depth guidance on the performance parameters of our passive fire stopping product solutions according to tested installations and applications.

BIM Solution Finder [>]

ROCKWOOL is proud to provide the BIM Solution Finder that will allow you to have the confidence in downloading the most recent BIM objects and the most up to date data for your projects.

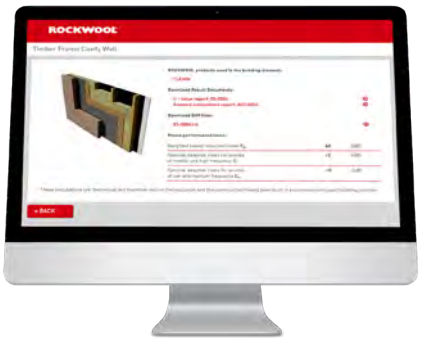


Flat Roof Zoning Tool [>]

The ROCKWOOL Zoning Tool has been developed to ensure the efficient use of insulation products across a flat roof. Simply draw the roof borders, then zone the roof into different areas depending on the application.

Acoustic Calculator [>]

The ROCKWOOL Acoustic Calculator has been developed to provide reliable acoustic predictions for multiple building applications.



U-Value Calculator [>]

Our U-value calculation tool allows you to quickly and easily calculate the thermal performance of walls, floors and roofs, with around 2,500 predetermined calculations all completed under the BBA/TIMSA U-value competency scheme. It also helps you to specify the correct product and thickness to meet your customers' requirements.

Rock-EQ Calculator [>]

Specifying the insulation for your HVAC systems is now easier thanks to the ROCKWOOL HVAC Calculation Tool.

For product and technical support, please email technical.solutions@rockwool.com or call 01656 868 490

Visit www.rockwool.com/UK/tools for more information

Solutions for every application

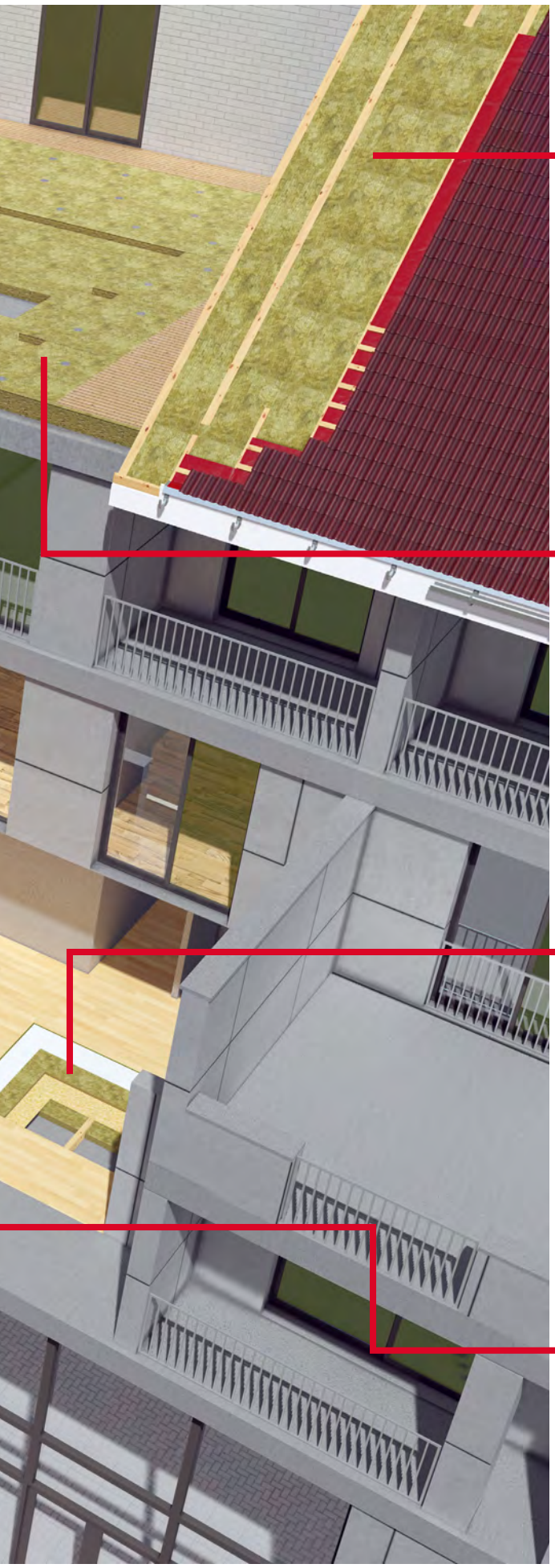
ROCKWOOL stone wool insulation delivers acoustic, fire and thermal performance for a wide range of internal and external building applications.

As a solution driven specification, ROCKWOOL insulation delivers regulation compliance and buildings that perform for the long term - from a single source.

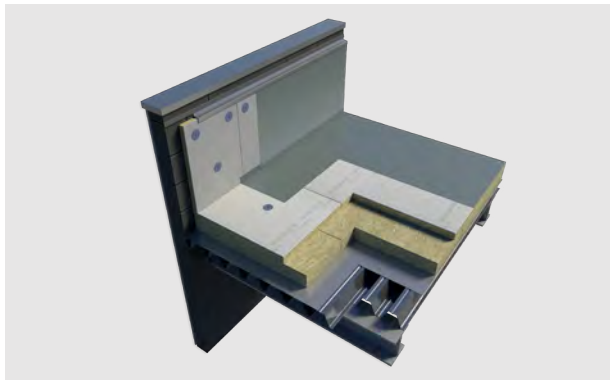
To learn more about the specific solutions for each application area, navigate to the relevant sections.

Internal wall and floor solutions [>]

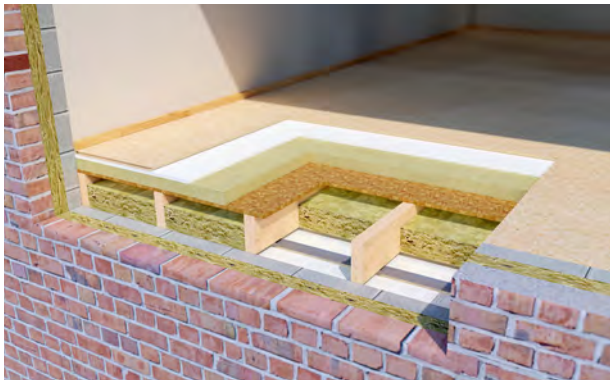
Facade & external wall solutions [>]



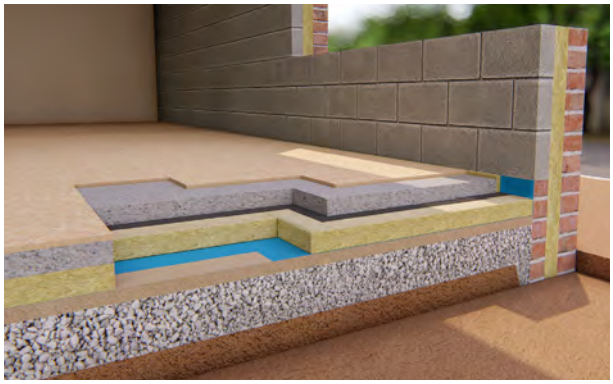
Pitched roof solutions [>]



Flat roof solutions [>]



Separating floor solutions [>]



Ground floor solutions [>]

Facade & external wall solutions

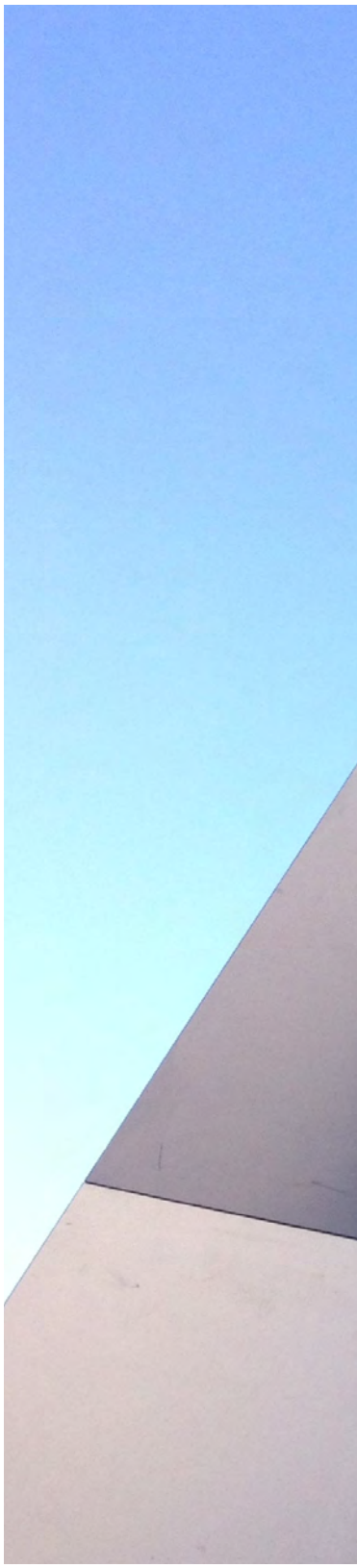
Design beautiful buildings with performance to last.

With ROCKWOOL façade and external wall solutions, balancing performance with aesthetics has never been easier.

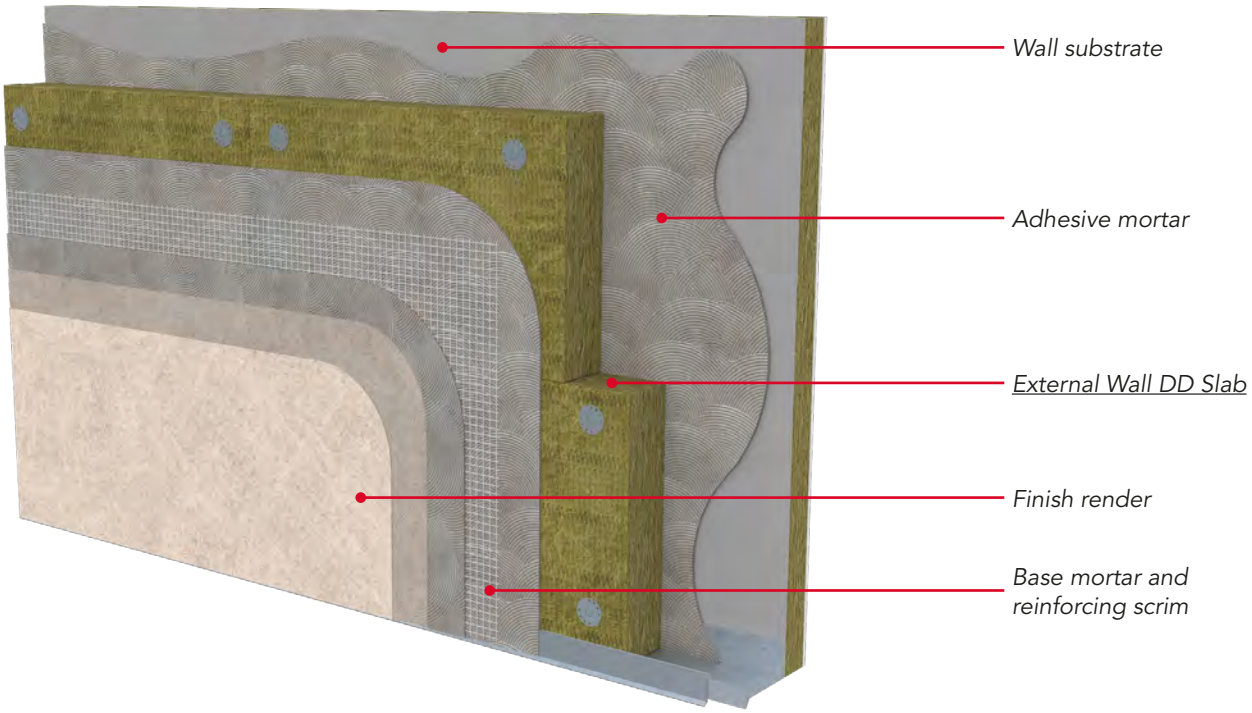
ROCKWOOL stone wool insulation is non-combustible and resilient to high temperatures, capable of withstanding in excess of 1000°C. A robust and durable specification, when used in through-wall and façade build-ups, ROCKWOOL ensures compliance with the latest fire safety standards while enabling flexibility over building fabric design.

The acoustic properties of ROCKWOOL reduce the transmission of unwanted sound through external walls into a building, helping to create comfortable interior spaces even in areas where high levels of environmental noise are present.

Easy to cut to shape, ROCKWOOL façade and external wall solutions simplify installation, supporting increased efficiency and reducing margin for error on-site.



ETICS
ROCKWOOL EWI Slab



Exterior thermal insulation for use in ETICS external wall systems.

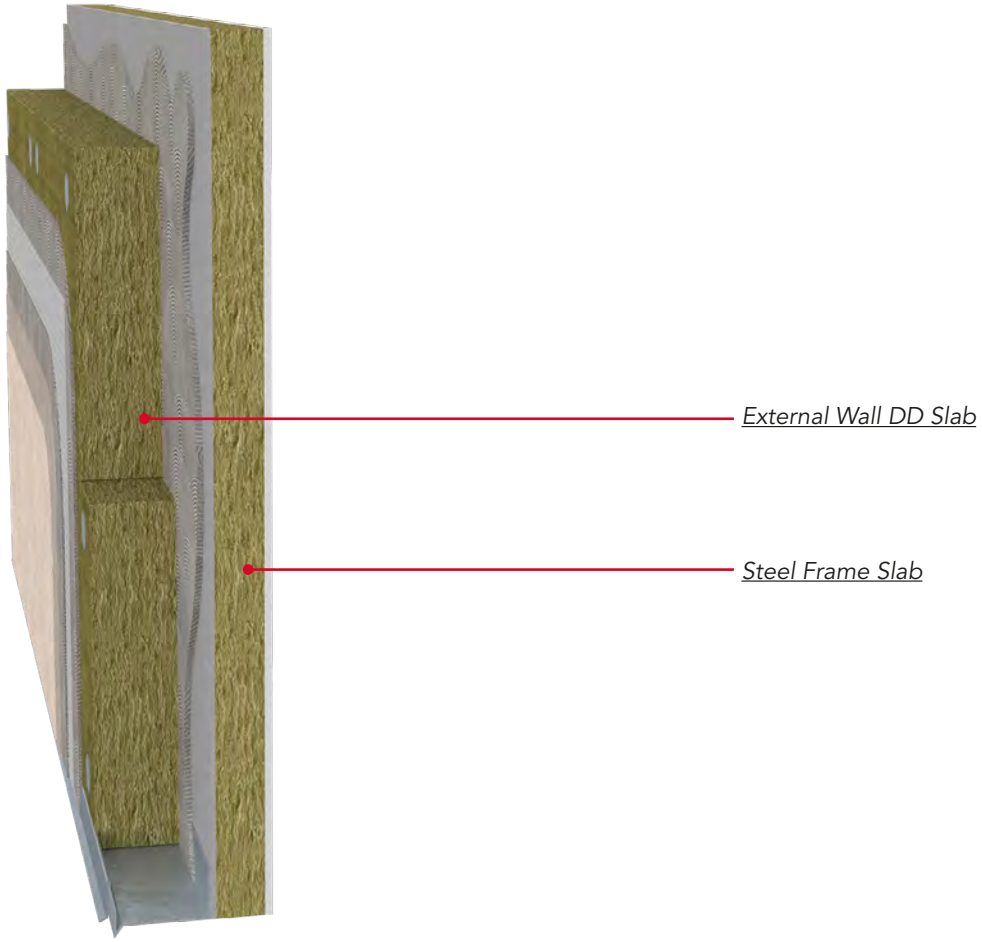
ROCKWOOL External Wall Dual Density Slab is a stone wool insulation specifically designed for use in external wall insulation systems. Made with ROCKWOOL dual density technology, the upper layer has a distinctly higher density which provides a robust outer surface for applying render.

- External Wall DD Slab is Euroclass A1 non-combustible
- Testing demonstrated an improvement to the weighted sound reduction, Rw, of up to 8 dB (substrate dependent)

U-value (W/m²K)	External Wall slab DD (mm)	
	Steel frame[1]	215mm block[2]
0.25	70	130
0.23	80	140
0.20	100	170
0.18	120	190
0.16	140	210
0.15	160	220
0.14	170	240

[1] 12mm cement particle board, 100mm steel frame filled with 100mm Steel Frame Slab, 2 x 12.5mm plasterboard.

[2] 215mm dense concrete block, 13mm plaster



Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
External Wall DD Slab	✓	Euroclass A1	-	-

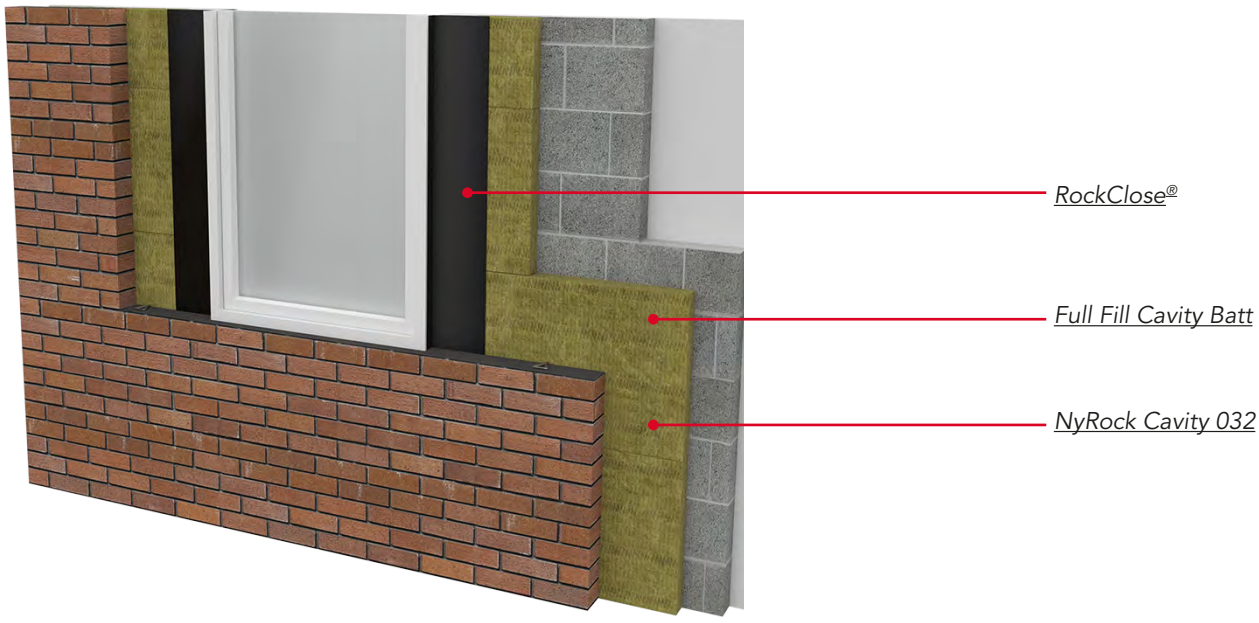
Product specification

Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
External Wall DD Slab	M21	1200	600	50-250

*Thickness options may be subject to a minimum production volume.
For further information on our standard thickness range please visit www.rockwool.com/uk

Masonry cavity walls

Full-fill



ROCKWOOL offer water repellent stone wool cavity batts to fully fill masonry cavity walls.

The lightweight batts are easy to handle and install and provide a tight fit against brick and blockwork. The non-combustible full-fill batts also prevent the spread of fire within a cavity, removing the need for separate cavity barriers. The batts are durable so do not slump or sag over time, providing lasting thermal performance.

- Full Fill Cavity & NyRock Cavity 032 achieves Euroclass A1 fire resistance
- Full Fill Cavity Batt and NyRock Cavity 032 acts as a cavity barrier within a masonry cavity wall
- RockClose provides 60 minutes fire integrity and 30 minutes insulation around door and window reveals

- Non-directional, stone wool fibres absorb soundwaves and dampen vibration
- Full Fill Cavity Batt and NyRock Cavity 032 are able to meet Part E of the building regulations when used in separating masonry cavity walls

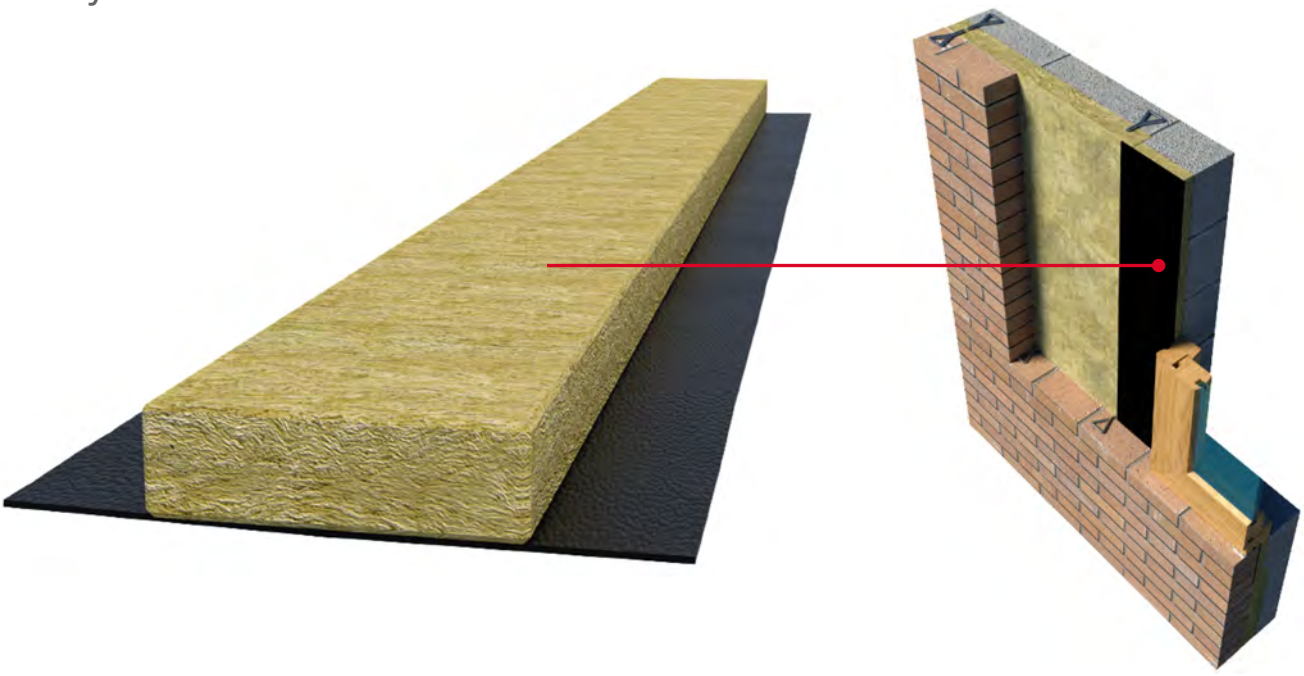
- Full Fill Cavity Batt and NyRock Cavity 032 have been certified by the BBA as a full fill cavity insulation within masonry walls

Inner block		Dense (1.13 W/mK)		Medium dense (0.47 W/mK)		Aircrete standard (0.15 W/mK)	
		U-value (W/m²K)		U-value (W/m²K)		U-value (W/m²K)	
Full Fill Cavity Batt thickness (mm)	NyRock Cavity 032 Thickness (mm)	Full Fill Cavity Batt	NyRock Cavity 032	Full Fill Cavity Batt	NyRock Cavity 032	Full Fill Cavity Batt	NyRock Cavity 032
115	100	0.27	0.27	0.26	0.26	0.24	0.24
130	125	0.24	0.22	0.24	0.22	0.22	0.20
150	150	0.22	0.19	0.21	0.19	0.20	0.18
200	200	0.17	0.15	0.16	0.14	0.16	0.14

U-values based on 102mm facing brick and an internal finish of plasterboard on dabs

ROCKWOOL RockClose minimises thermal bridging around door and window reveals, and exceeds the minimum thermal resistance of a closer of not less than 0.45 W/mK.

RockClose
Cavity Closer



Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
*Full Fill Cavity Batt	✓	Euroclass A1	-	BBA Approved (certificate 94/3079)
NyRock Cavity 032	✓	Euroclass A1	-	BBA Approved (certificate 22/6252)
**RockClose	-	-	Integrity: 60mins Insulation: 30mins	-

*Meets the criteria of Approved Document E, Section 2 – Separating walls and associated flanking constructions for new buildings

**Meets the criteria of Approved Document L, Section 3 – Thermal Bridges

Product specification

Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
Full Fill Cavity Batt	F30-130	1200	455	50-250
NyRock Cavity 032	F30-180	1200	455	100-200
RockClose	F30-180	1200	100	20-100

*Thickness options may be subject to a minimum production volume.

For further information on our standard thickness range please visit www.rockwool.com/uk

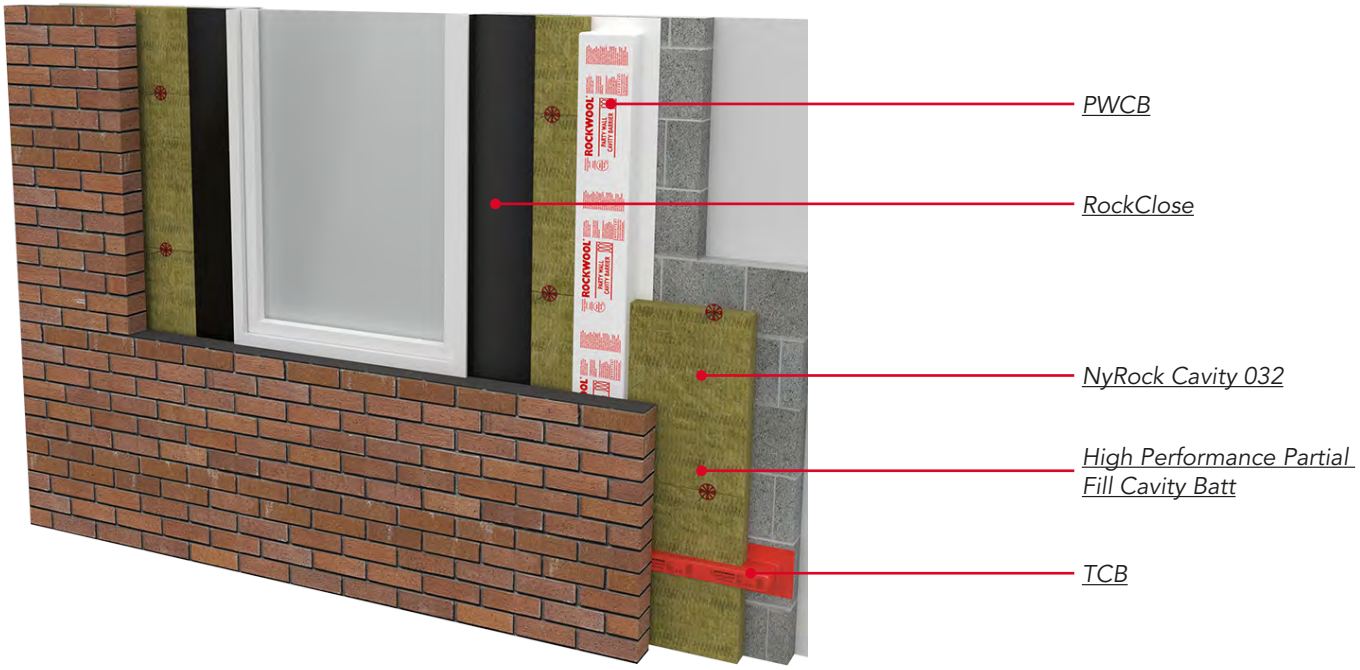
BIM objects

Full Fill Cavity Batt

NyRock Cavity 032

Masonry cavity walls

Partial-fill



For masonry cavity walls, ROCKWOOL offer a highly durable semi-rigid partial fill insulation solution.

ROCKWOOL also offer cavity barriers to prevent the spread of fire between party walls and separating floors, and cavity closers to prevent thermal bridging and the spread of fire through door and window reveals.

- HP Partial Fill and NyRock Cavity 032 are Euroclass A1 non-combustible
- PWCB provides 60 minutes fire integrity and 60 minutes resistance.
- TCB provides 60 minutes fire integrity and 30-60 minutes insulation*
- RockClose provides 60 minutes fire integrity and 30 minutes insulation

- Non-directional, stone wool fibres absorb soundwaves and dampen vibration
- PWCB & TCB prevent flanking noise along concealed cavities

- HP Partial Fill and NyRock Cavity 032 have been certified by the BBA as a partial fill cavity insulation within masonry walls

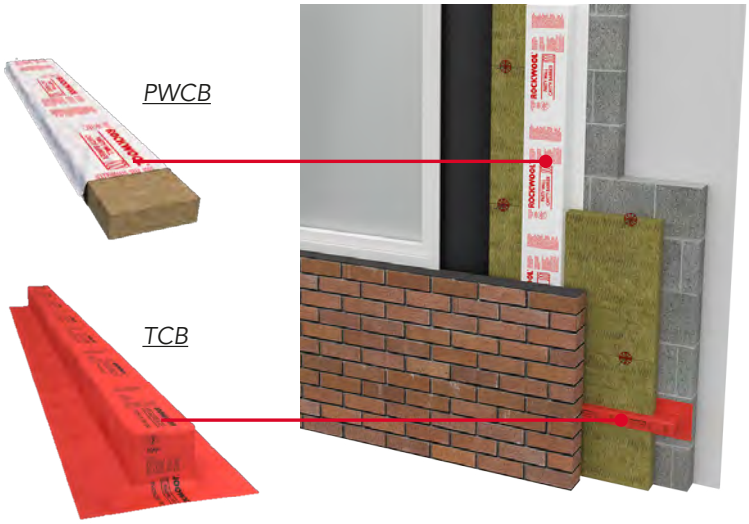
*dependent upon TCB size – refer to data sheet

Inner block		Dense (1.13 W/mK)		Medium dense (0.47 W/mK)		Aircrete standard (0.15 W/mK)	
		U-value (W/m²K)		U-value (W/m²K)		U-value (W/m²K)	
"HP Partial Fill Thickness (mm)"	NyRock Cavity 032 Thickness (mm)	HP Partial Fill	NyRock Cavity 032	HP Partial Fill	NyRock Cavity 032	HP Partial Fill	NyRock Cavity 032
100	100	0.28	0.26	0.27	0.25	0.25	0.23
120	125	0.24	0.21	0.23	0.21	0.22	0.20
150	150	0.20	0.18	0.19	0.18	0.18	0.17
180	200	0.17	0.14	0.17	0.14	0.16	0.13

U-values based on 102mm facing brick and an internal finish of plasterboard on dabs

ROCKWOOL RockClose minimises thermal bridging around door and window reveals, and exceeds the minimum thermal resistance of a closer of not less than 0.45 W/mK.

RockClose
and Cavity Closer - PWCB & TCB



Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
High Performance Partial Fill	✓	Euroclass A1	-	BBA Approved (Certificate 93/2884)
NyRock Cavity 032	✓	Euroclass A1	-	BBA Approved (certificate 22/6252)
*TCB & PWCB**	-	-	Integrity: 60mins Insulation: 30-60mins	LPCB (Certificate 022b(3))
**RockClose	-	-	Integrity: 60mins Insulation: 30mins-	-

*Meets the criteria of Approved Document E, Section 2 – Separating walls and associated flanking constructions for new buildings
**Meets the criteria of Approved Document L, Section 3 – Thermal Bridges
*** Meets the criteria of Approved Document B, Section 5 – Internal Fire Spread

Product specification

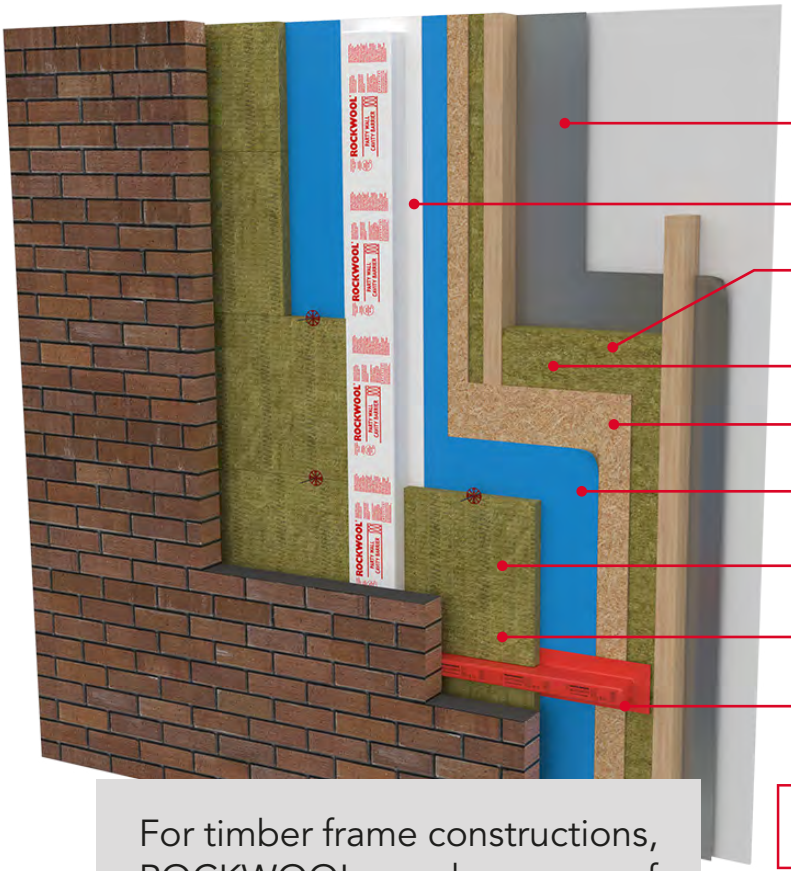
Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
HP Partial Fill	F30-155	1200	455	50-250
NyRock Cavity 032	F30-155	1200	455	50-200
TCB	F30-180, K10-530, P10-420	1200	65-210	65-160
PWCB	F30-180, K10-530, P10-420	1200	200	65-160
RockClose	F30-180	1200	100	20-100

*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

- Partial Fill
- TCB/PWCB
- NyRock Cavity 032

Timber frame walls



For timber frame constructions, ROCKWOOL supply a range of products to provide thermal, fire and acoustic performance.

Manufactured with NyRock Technology, NyRock Frame 032 delivers a low thermal conductivity, Euroclass A1 reaction to fire and sound reduction. When paired with NyRock RainScreen 032 sheathing insulation layer, U-values to meet and exceed building regulations can be achieved. ROCKWOOL PWCB and TCB complete the solution, preventing the spread of fire within the open cavity space.

- Timber frame slab, NyRock Frame 032, RainScreen Duo Slab and NyRock RainScreen 032 achieve Euroclass A1 reaction to fire.
- PWCB provides 60 minutes fire integrity and 60 minutes resistance.
- TCB provides 60 fire integrity and 30-60 minutes insulation*

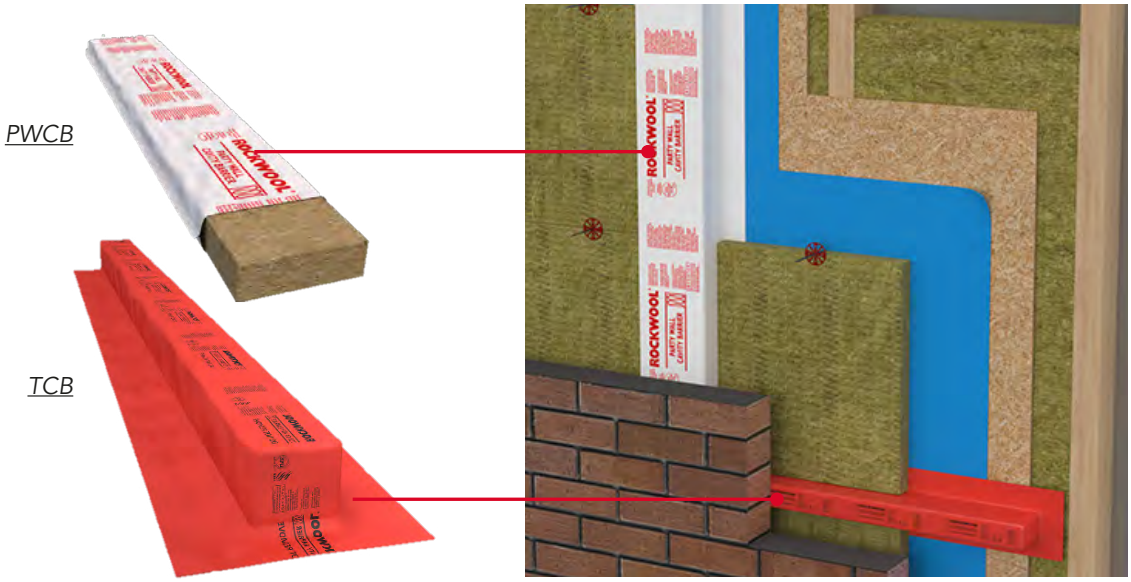
- Non-directional, stone wool fibres absorb soundwaves and dampen vibration
- PWCB & TCB prevent flanking noise along concealed cavities

- RainScreen Duo Slab and NyRock Cavity 032 have been certified by the BBA for use in timber frame constructions with a masonry outer leaf

*dependent upon TCB size – refer to data sheet

Timber frame slab (mm)	RainScreen Duo Slab (mm)	Service void and reflective vapour control layer	U-value (W/m^2K)
90	50		0.24
90	50	✔	0.23
140	50		0.19
140	50	✔	0.17
NyRock Frame 032 (mm)	**NyRock RainScreen 032 (mm)**	**Service void and reflective vapour control layer**	**U-value (W/m^2K)**
90	50		0.23
90	50	✔	0.21
140	50		0.18
140	50	✔	0.17

ROCKWOOL Cavity Barriers
PWCB & TCB



Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
Timber Frame Slab	✓	Euroclass A1	-	-
NyRock Frame 032	✓	Euroclass A1	-	-
RainScreen Duo Slab	✓	Euroclass A1	-	BBA Approved (Certificate 17/5402)
NyRock RainScreen 032	✓	Euroclass A1	-	BBA Approved (Certificate 22/6417)
*PWCB & TCB	-	-	Integrity: 60mins Insulation: 30-60mins	-
**RockClose	-		Integrity: 60mins Insulation: 30mins	-

*Meets the criteria of Approved Document E, Section 2 – Separating walls and associated flanking constructions for new buildings

**Meets the criteria of Approved Document L, Section 3 – Thermal Bridges

Product specification

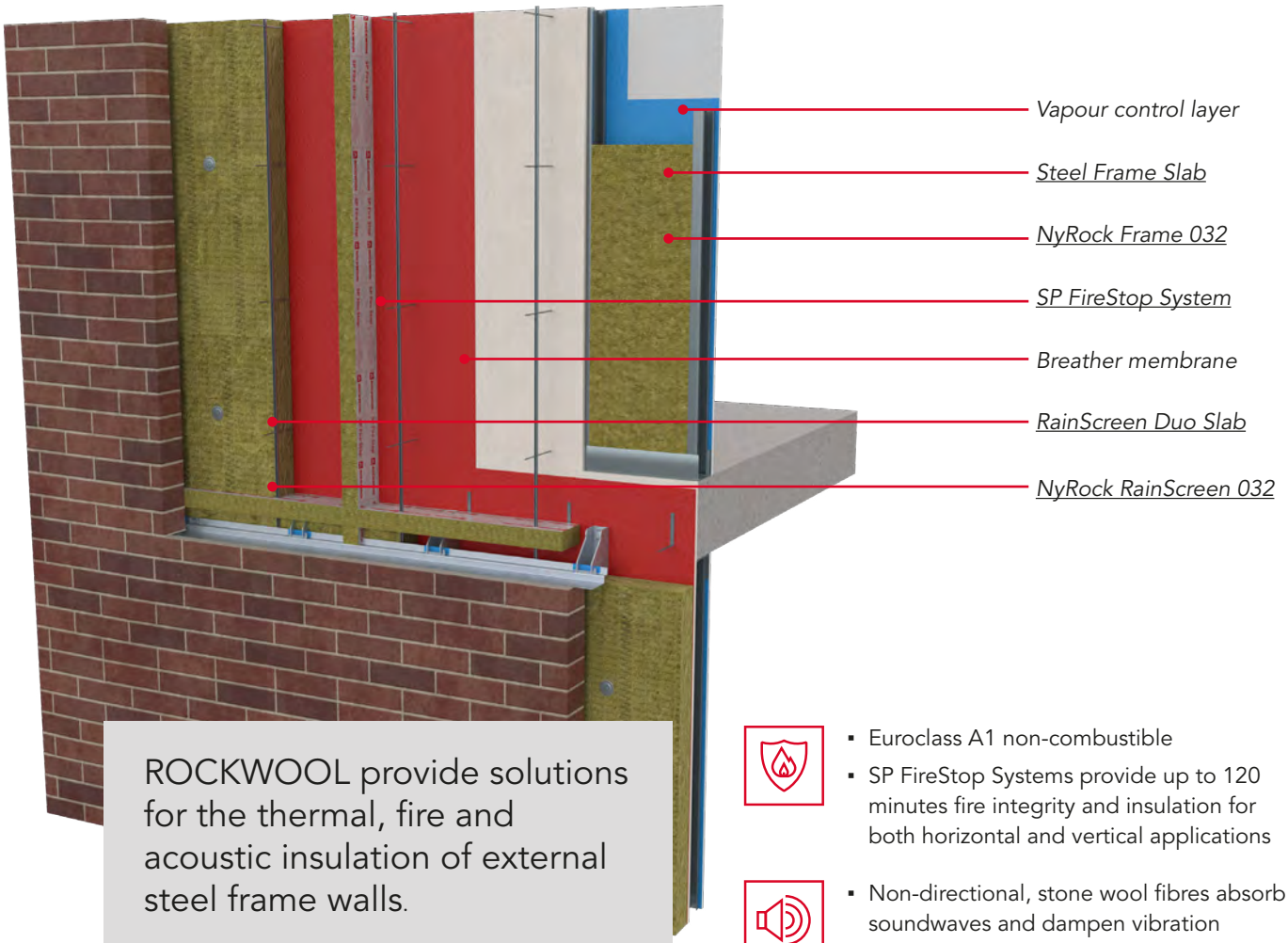
Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
Timber Frame Slab	P10-140	1200	400, 570	50-200
NyRock Frame 032	P10-140	1200	570, 600	50-200
RainScreen Duo Slab	H11-110, H11-780, H92-776, P10-217	1200	455, 600	50-230
NyRock RainScreen 032	H11-110, H11-780, H92-776, P10-217	1200	600	50-200
TCB	F30-530, P10-420	1200	65-210	65-160
PWCB	F30-530, P10-420	1200	200	65-160

*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

- RainScreen Duo Slab
- TCB/PWCB
- NyRock Frame 032
- NyRock RainScreen 032

Steel framed walls



ROCKWOOL provide solutions for the thermal, fire and acoustic insulation of external steel frame walls.

Solutions for masonry and ventilated facades are available. Thermal insulation is provided through insulation between the studs, as well as a sheathing insulation (RainScreen Duo Slab and NyRock RainScreen 032) to further reduce U-values. SP FireStop solutions prevent the spread of fire, and *flanking noise in the cavity.

*Acoustic test data is available for SP FireStop, please contact ROCKWOOL Technical Support for further information.

- Euroclass A1 non-combustible
- SP FireStop Systems provide up to 120 minutes fire integrity and insulation for both horizontal and vertical applications

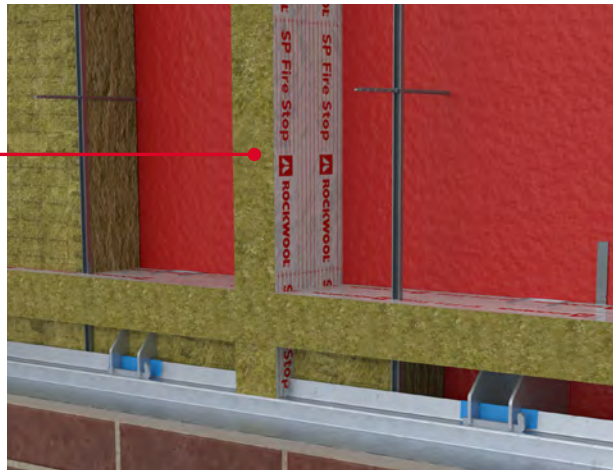
- Non-directional, stone wool fibres absorb soundwaves and dampen vibration
- Able to meet and exceed Part E of the building regulations when used in separating masonry cavity walls

- RainScreen Duo Slab and NyRock RainScreen 032 have been certified by the BBA for use in steel frame constructions with a masonry outer leaf

Steel Frame Slab (mm)	RainScreen Duo Slab (mm)	U-value (W/m²K)
100	50	0.27
100	75	0.22
100	100	0.19
100	150	0.15
NyRock Frame 032 (mm)	**NyRock RainScreen 032 (mm)**	**U-value (W/m²K)**
100	50	0.26
100	75	0.22
100	100	0.18
100	150	0.14

ROCKWOOL Cavity Barriers
SP FireStop System

SP FireStop System



Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
Steel Frame Slab	✓	Euroclass A1	-	-
NyRock Frame 032	✓	Euroclass A1	-	-
RainScreen Duo Slab	✓	Euroclass A1	-	BBA Approved (Certificate 17/5402)
NyRock RainScreen 032	✓	Euroclass A1	-	BBA Approved (Certificate 22/6417)
*SP FireStop System		-	Integrity: Up to 120mins** Insulation: Up to 120mins**	Certifire: CF5386

*Meets the criteria of Approved Document E, Section 2 – Separating walls and associated flanking constructions for new buildings
**Subject to the application

Whilst the external wall is not typically required to have a Fire Resistance performance itself, the compartment floors and walls abutting it do, as such the SP FireStop Systems have been tested within representative wall and floor substrates to prove their fire resistance performance. It is important to note that the Fire Resistance performance of the firestop is only as good as the performance of the supporting substrates in to which it is installed. Where Fire-stopping is installed up to a non-fire resisting external wall then the performance of the fire-stop will be limited to the performance of the wall itself.

Product specification

Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
ROCKWOOL Steel Frame Slab	K10-145, K10-155, K10-165	1200	600	50-200
NyRock Frame 032	P10-140	1200	570, 600	50-200
RainScreen Duo Slab	H11-110, H11-780, H92-776, P10-217	1200	600	50-230
NyRock RainScreen 032	H11-110, H11-780, H92-776, P10-217	1200	600	50-200
SP FireStop System	F30-180, P10-432, P12-360	1000 - 1200	650 - 1000	75-90

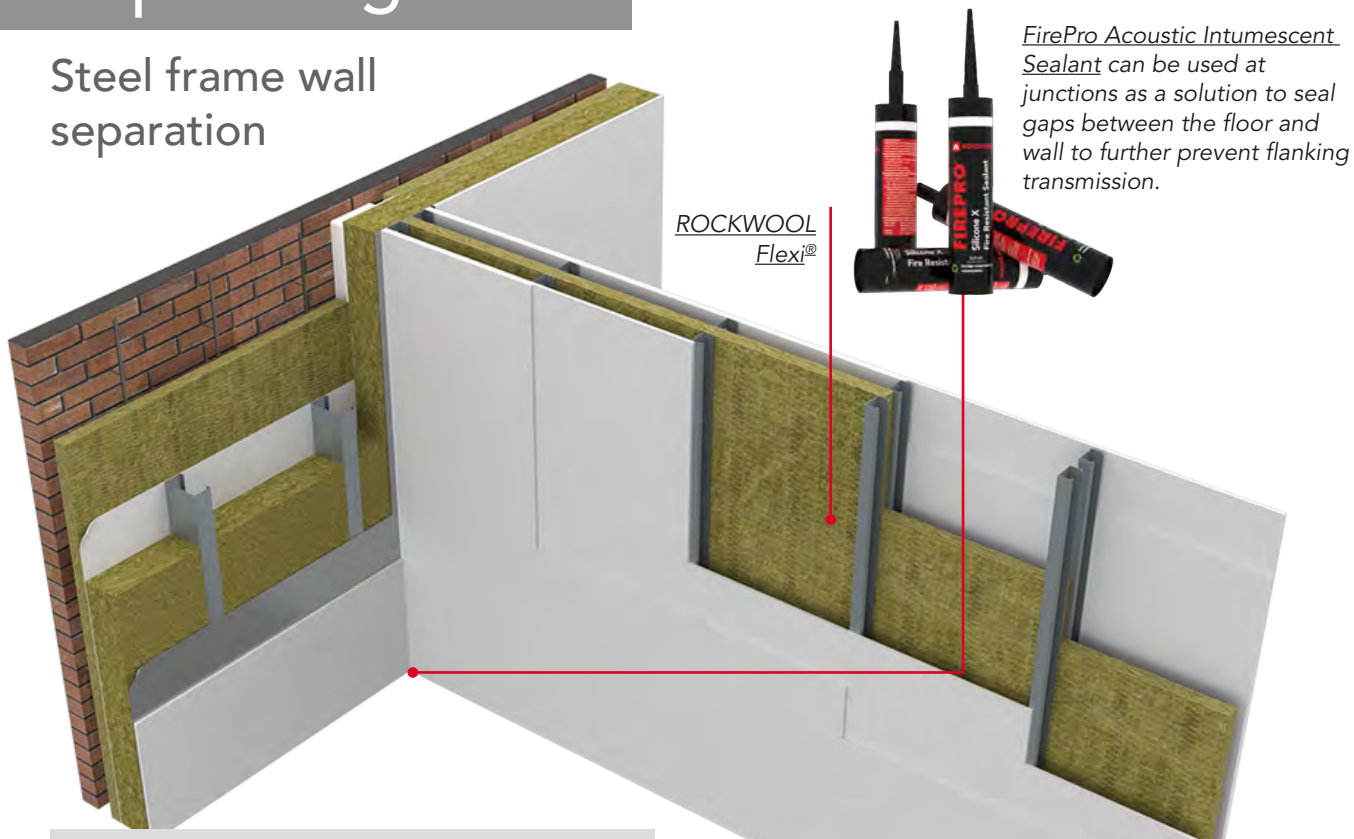
*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

- RainScreen Duo Slab
- TCB/PWCB
- NyRock Frame 032
- NyRock RainScreen 032

Separating walls

Steel frame wall separation



FirePro Acoustic Intumescent Sealant can be used at junctions as a solution to seal gaps between the floor and wall to further prevent flanking transmission.

ROCKWOOL Flexi delivers exceptional acoustic performance.

With optimum density and non-directional fibre orientation, ROCKWOOL Flexi has excellent acoustic properties. The patented flexible edge ensures an accurate fit within framed applications reducing flanking paths through separating, and internal wall constructions.

Flexi is non-combustible and suitable for use in fire rated compartment walls.

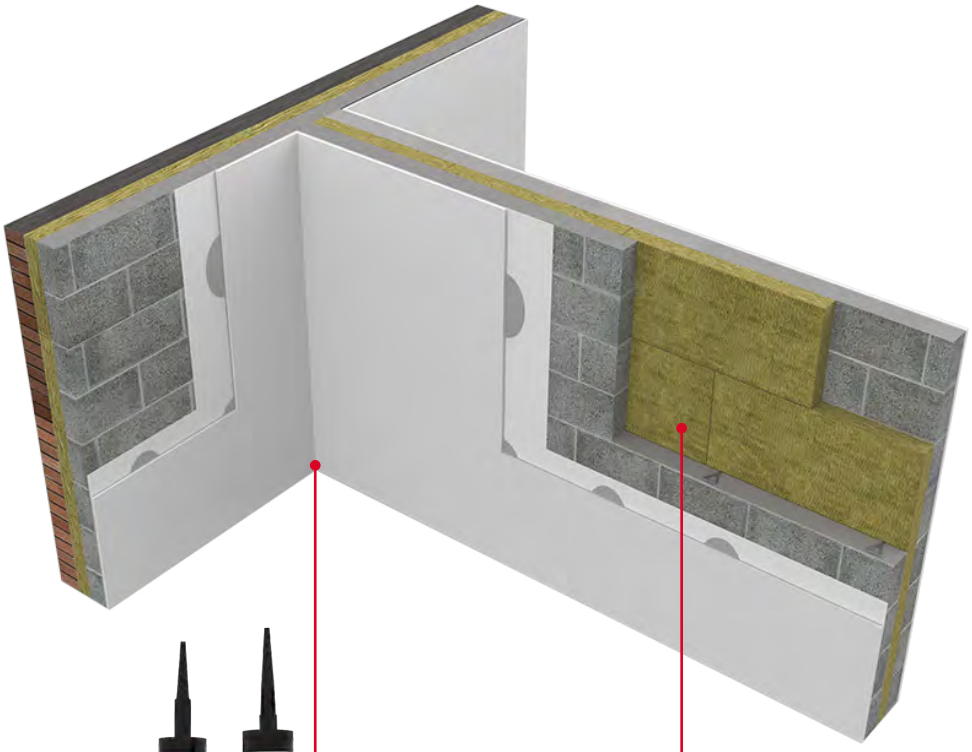
- ROCKWOOL Flexi is Euroclass A1 non-combustible

Robust details

E-WT1: Timber frame	E-WS-1: Twin metal frames	Performance
Independent timber frames with a minimum 50mm gap	Independent steel frames with a minimum 50mm gap	Airborne Sound Reduction $D_{nT,w} + C_{tr}$ 50 dB
Minimum 240mm between inside lining faces	Minimum 200mm between inside lining faces	
60mm ROCKWOOL Flexi in both frames	50mm ROCKWOOL Flexi in both frames	
2 x 15mm plasterboard (22kg/m²) to each side of the wall	2 x 15mm plasterboard (22kg/m²) to each side of the wall	

Masonry party wall solution

- ROCKWOOL Cavity Batt can be used to fully fill a masonry party wall and reduce the U-value to 0.00W/m²K
- Full Fill Cavity Batts can be used to support robust details for acoustic insulation in masonry party wall constructions



FirePro Acoustic Intumescent Sealant can be used at junctions as a solution to seal gaps between the floor and wall to further prevent flanking transmission.

Full Fill Cavity Batt

Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
ROCKWOOL Flexi	✓	Euroclass A1	-	-
Full Fill Cavity Batt	✓	Euroclass A1	-	BBA Approved (Certificate 17/5402)

Product specification

Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
ROCKWOOL Flexi	K10-115, K10-125, K10-145, K10-155, K10-165, K10-215, K11-115, K11-125, K11-135, K11-145, K11-795, K11-796, K20-150, K21-120, K21-130, K21-140, P10-140, P10-170, P10-240, P10-250	1200	400, 600	50-200
Full Fill Cavity Batt	F30-130	1200	455	50-250

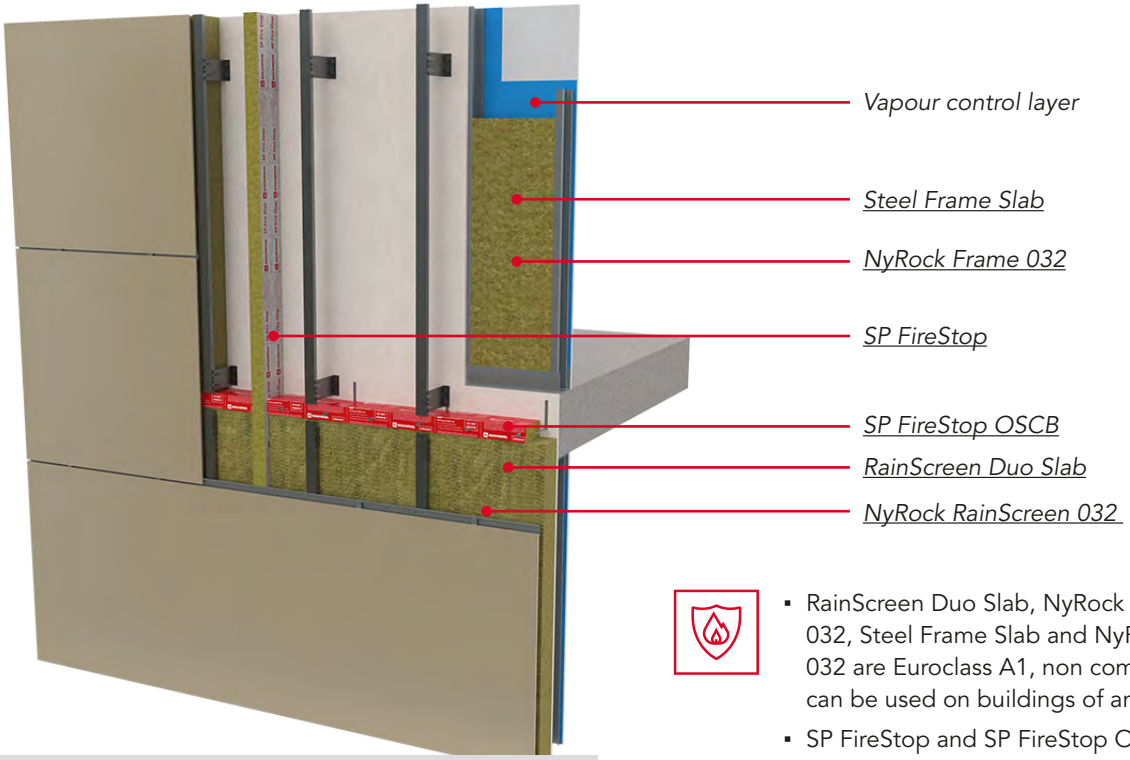
*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.co.uk

BIM objects

ROCKWOOL Flexi

Cavity Batt

Ventilated rainscreen



ROCKWOOL offer a complementary non-combustible insulation and fire barrier solution for ventilated rainscreen walls.

ROCKWOOL provide a range of products for rainscreen facade applications which now includes low lambda NyRock RainScreen 032, this can be combined with NyRock Frame 032 for improved thermal performance. SP FireStop and SP FireStop OSCB provide up to two hours integrity and insulation in the event of a fire.

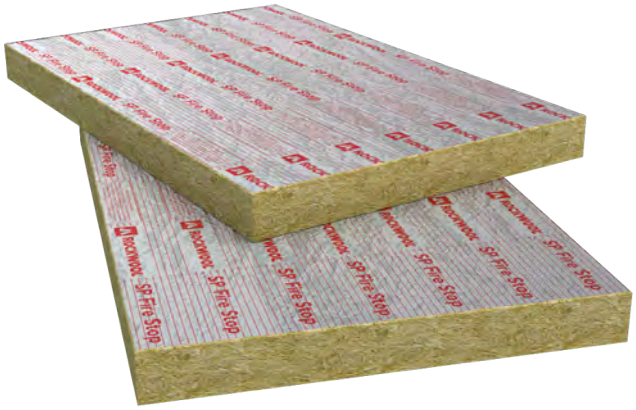
- RainScreen Duo Slab, NyRock RainScreen 032, Steel Frame Slab and NyRock Frame 032 are Euroclass A1, non combustible and can be used on buildings of any height.
- SP FireStop and SP FireStop OSCB are tested to provide up to two hours integrity and insulation in the event of a fire.

- RainScreen Duo Slab and NyRock RainScreen 032 have been certified by the BBA for use in RainScreen Cladding Systems.

Steel Frame Slab (mm)	RainScreen Duo Slab (mm)	U-value (W/m²K)
150	75	0.24
150	100	0.21
150	150	0.18
150	180	0.17
NyRock Frame 032 (mm)	**NyRock RainScreen 032 (mm)**	**U-value (W/m²K)**
150	70	0.22
150	100	0.19
150	150	0.16
150	170	0.14

RainScreen Duo Slab (mm)	ROCKWOOL Steel Frame Slab within frame (mm)	Layers of 15mm acoustic plasterboard (mm)	Rockpanel A2		ACM (Booth Muirie)	
			R_W	$R_W + C_{tr}$	R_W	$R_W + C_{tr}$
50	90	2	57	50	58	47
	90	1	57*	47*	58	45
100	90	2	59	52	58	49
	90	1	59*	51*	58*	48*
180	90	2	62	54	60	52
	90	1	62*	53*	60*	52*

*Assessed against the data held within test report C/23666/T03



SP FireStop

SP FireStop OSCB

Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
RainScreen Duo Slab	✓	Euroclass A1	-	BBA Approved (Certificate 17/5042)
NyRock RainScreen 032	✓	Euroclass A1	-	BBA Approved (Certificate 22/6417)
Steel Frame Slab	✓	Euroclass A1	-	-
NyRock Frame 032	✓	Euroclass A1	-	-
SP FireStop System	-	-	Integrity: Up to 120mins** Insulation: Up to 120mins**	Certifire: CF5386
SP FireStop OSCB	-	-	Integrity: Up to 120mins Insulation: Up to 120mins	-

*Meets the criteria of Approved Document E, Section 2 – Separating walls and associated flanking constructions for new buildings

**Subject to the application

Whilst the external wall is not typically required to have a Fire Resistance performance itself, the compartment floors and walls abutting it do, as such the SP FireStop Systems have been tested within representative wall and floor substrates to prove their fire resistance performance. It is important to note that the Fire Resistance performance of the firestop is only as good as the performance of the supporting substrates in to which it is installed. Where Fire-stopping is installed up to a non-fire resisting external wall then the performance of the fire-stop will be limited to the performance of the wall itself.

Product specification

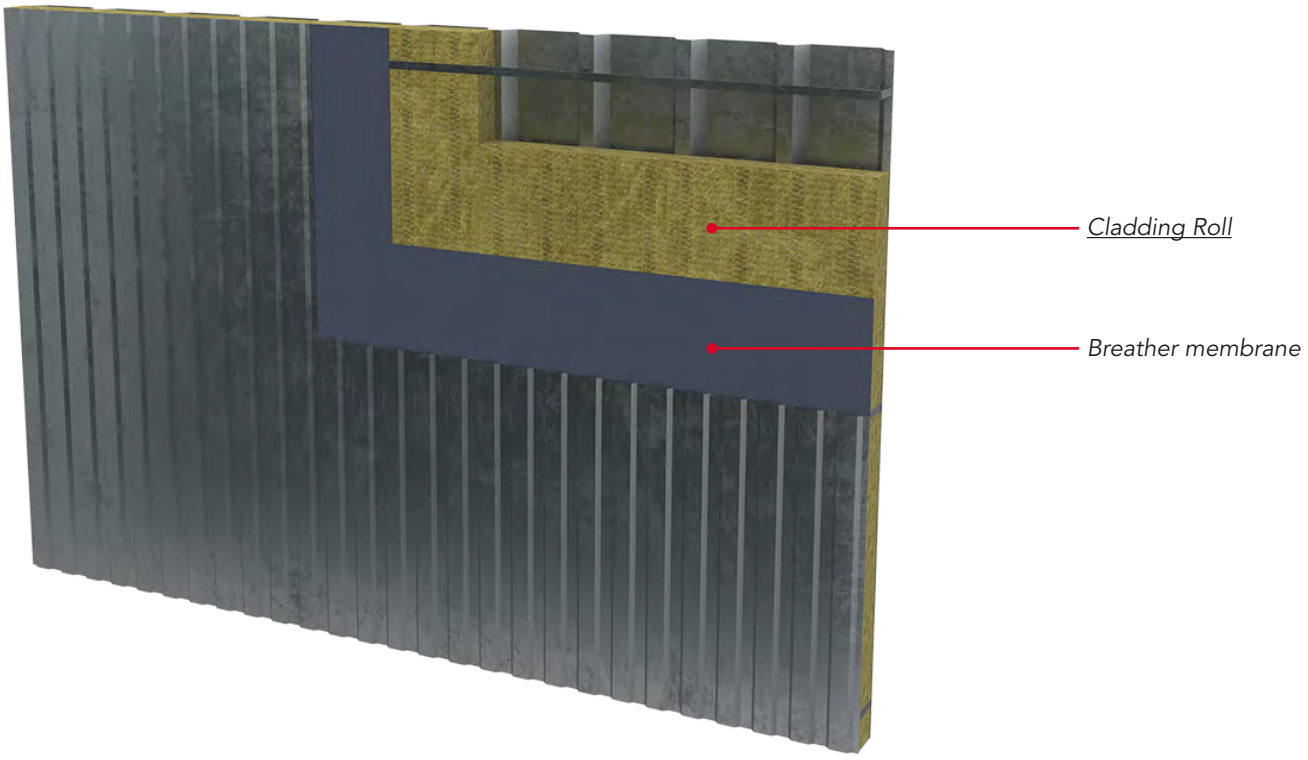
Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
Steel Frame Slab	K10-145, K10-155, K10-165	1200	600	50-200
NyRock Frame 032	P10-140	1200	570, 600	50-200
RainScreen Duo Slab	H11-110, H11-780, H92-776, P10-217	1200	600	50-230
NyRock RainScreen 032	H11-110, H11-780, H92-776, P10-217	1200	600	50-200
SP FireStop System	F30-180, P10-432, P12-360	1000 - 1200	650 - 1000	75-90
SP FireStop OSCB	F30-180, P10-432, P12-360	1000	75-575	90

*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

- RainScreen Duo Slab
- ROCKWOOL SP FireStop
- NyRock Frame 032
- NyRock RainScreen 032

Twin skin metal cladding



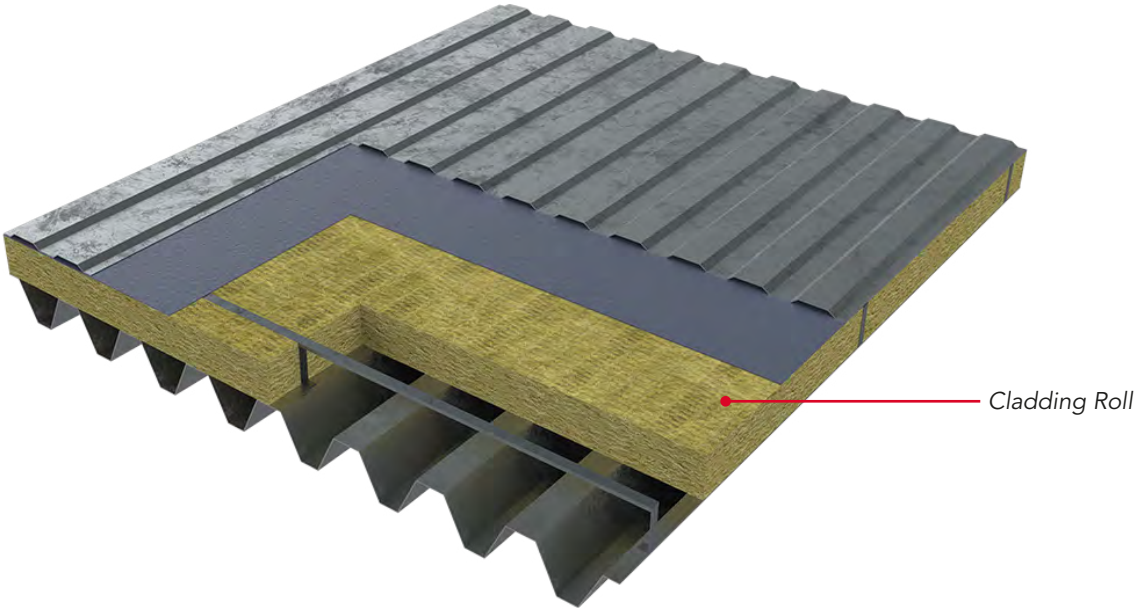
Commercial or industrial framed buildings can reap the rewards of lightweight, fire resistant cladding insulation that also offers thermal and acoustic benefits.

ROCKWOOL Cladding Roll has been specifically developed for use as an economical solution for projects that require dimensionally stable, consistent thermal performance in both roof and wall applications.

- Tests have shown that with suitably designed constructions excellent sound reduction can be achieved.
- A 0.4mm thick lining sheet and 0.55mm outer sheet filled with 100mm Cladding Roll achieved Rw 37dB.
- This can be increased to Rw 38dB by including an air space between the insulation and the outer sheets.

U-value (W/m²K)	Thickness (mm)
0.24	180
0.22	200
0.20	220

- A typical metal twin skin wall incorporating ROCKWOOL Cladding Roll has been fire tested and shown to comply with BS 476: Part 22 as a fire rated wall one metre or more from a relevant boundary.
- The over sheeting rail system achieved 4 hours integrity, 4 hours stability and 17 minutes insulation (Warres No. 42624 + WF153726).
- Alternative fire wall designs have been tested by cladding systems manufacturers using different sheeting, fixing and spacer systems. These manufacturers should be contacted for full specification and design.



Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
Cladding Roll	✓	Euroclass A1	Integrity: Up to 240mins	-

Product specification

Product	NBS Clauses	Length (mm)	Width (mm)	Approved thickness range (mm)
Cladding Roll	H30-311, H31-254, H31-271, P10-220	2200-5000	1200	60-220

BIM objects

Cladding Roll

Flat roof solutions

Specify performance where it's needed.

Supporting specifiers in delivering developments that address modern construction demands, ROCKWOOL enables flexibility in design by providing access to a wide range of solutions that facilitate flat roof zoning.

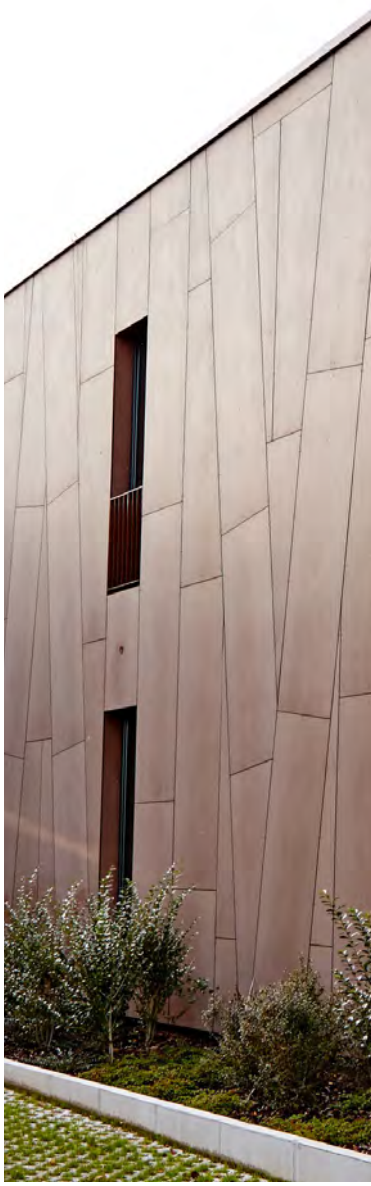
Where building design incorporates green roofs, roof terraces and roof gardens in line with the living roof agenda, the ROCKWOOL HardRock® range presents a solution for every application.

For rooftop plant and machinery, ROCKWOOL flat roof solutions offer a choice of acoustic performance and dual-density products that will reduce transmission of sound into the building below.

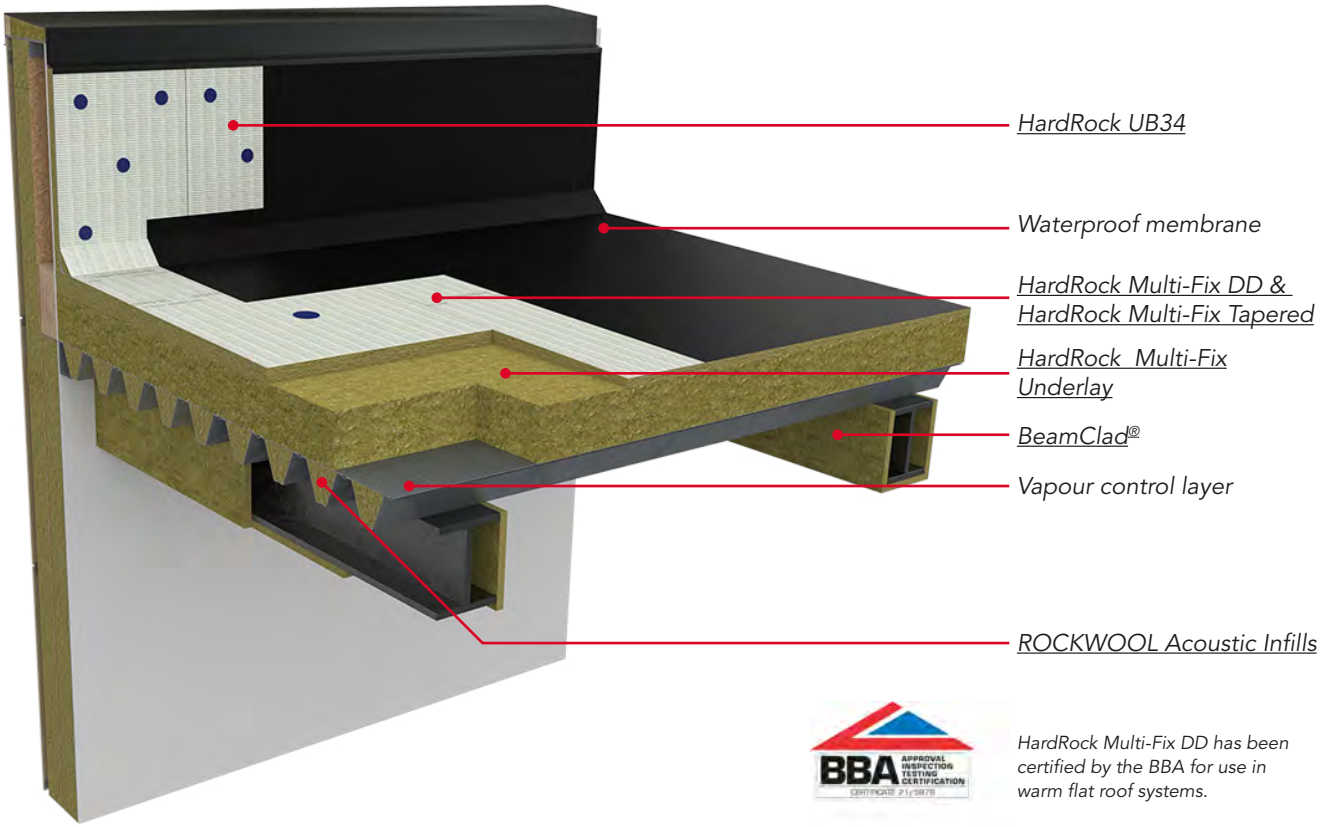
With rain noise known to significantly increase indoor noise levels – up to 70dBA in some cases – reducing noise transfer from the roof and into buildings is a key design consideration. Building Regulation submissions should demonstrate that lightweight roofs and roof glazing have been designed to control reverberant rain noise, while BREAAM for Schools provides credits for not exceeding the allowable indoor ambient noise level by more than 25dB.

High density ROCKWOOL roof boards provide an excellent barrier to the drumming effects of rain noise. Tests show that when used within a flat roof system, ROCKWOOL roof boards support a significant reduction in rain noise intensity.

As the fifth façade in the building fabric, fire safety is a key consideration in flat roof design. The non-combustible nature of ROCKWOOL delivers the highest levels of fire performance, which also facilitates the safe completion of hot works during construction and maintenance.



HardRock Multi-Fix DD



HardRock Multi-Fix DD has been certified by the BBA for use in warm flat roof systems.

A versatile insulation solution for flat roofs, suitable for areas subject to pedestrian traffic and frequent maintenance, and compatible with all roof covering types - including torch-on, pour-and-roll, single ply, EPDM, liquid-applied, and green roofs.

As well as delivering outstanding thermal and fire performance, the innate acoustic properties of ROCKWOOL HardRock Multi-Fix DD substantially improve the ability of lightweight flat roof systems to control both noise ingress and egress through the building envelope.

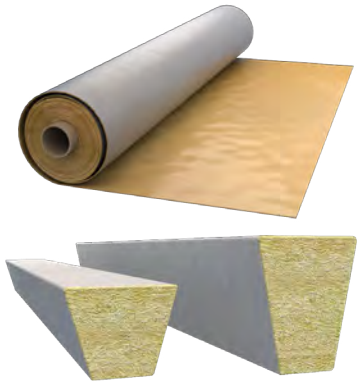
In addition to being non-combustible, HardRock Multi-Fix has been fire tested to BS EN 1365-2 as part of a weight-loaded steel deck flat roof system to provide two hours' integrity and insulation performance.

Insulation layer 1 (mm)	Insulation layer 2 (mm)	Single ply membrane U-value (W/m²K)	Bitumen (2-layer felt) U-value (W/m²K)
150	60	0.18	0.18
150	85	0.16	0.16
150	105	0.15	0.15

Insulation layer 1 (mm)	Insulation layer 2 (mm)	Airborne reduction (dB)	Rain intensity (dB)	Airborne reduction (dB)	Rain intensity (dB)
150	60	R_w 44	L_{IA} 48.7	R_w 45	L_{IA} 47.5
150	85	R_w 45	L_{IA} 47.8	R_w 46	L_{IA} 46.7
150	105	R_w 46	L_{IA} 47.1	R_w 47	L_{IA} 46.1

Based on D60 profiled steel deck. Further variations available on request.

Acoustic Membrane & Acoustic Infills



For the most demanding of acoustic specifications, ROCKWOOL Acoustic Membrane can improve airborne and rain noise performance even further.

Additionally, the underside of a perforated metal deck roof can be used to control build up of internal noise, reducing the reverberation time through the enhanced absorption offered by ROCKWOOL Acoustic Infills.

Multi-Fix Angle Fillets

Manufactured from high density ROCKWOOL stone wool, Multi-Fix Angle Fillets are designed to be installed at 90° abutments. Perfect for where roof insulation meets an upstand, Angle Fillets smooth the transition from horizontal to vertical while fully supporting the waterproof membrane.

HardRock UB34

Consisting of non-combustible ROCKWOOL insulation faced with an exterior grade non-combustible 6mm fibre cement board, HardRock UB34 achieves a Euroclass fire classification of A2-s1, d0, offering a non-combustible solution for insulating upstands and parapet walls.

Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
HardRock Multi-Fix	✓	Euroclass A2-s1, d0	120 Minutes	LPCB (Certificate 022g)
HardRock Multi-Fix Underlay"	✓	Euroclass A1	120 Minutes	LPCB (Certificate 022g)

NBS specifications

ROCKWOOL HardRock Multi-Fix is associated with the following NBS clauses:

Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
HardRock Multi-Fix	J21-425, J31-334, J41-425, J42-425, K11-695	1000	1200	60-185

*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

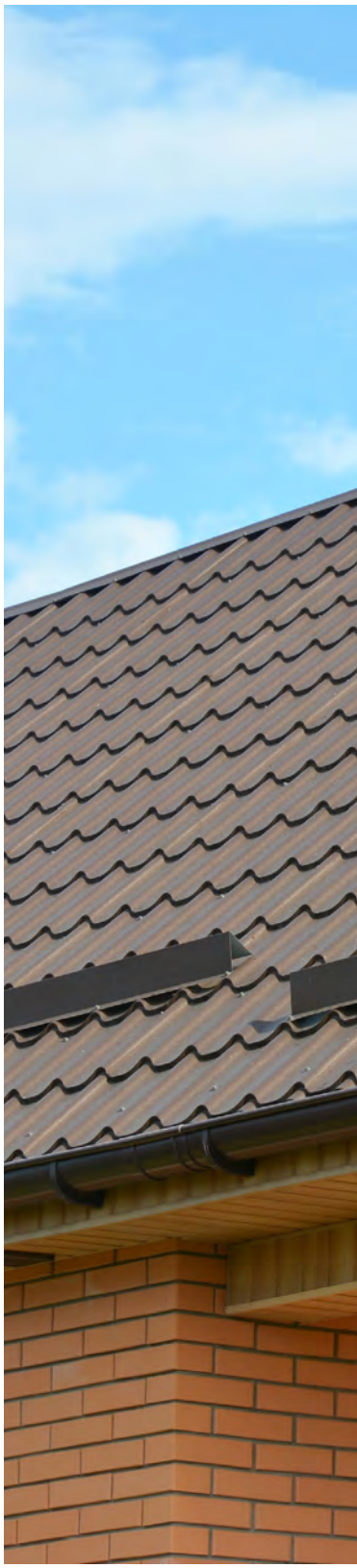
HardRock Multi-Fix

Pitched roof solutions

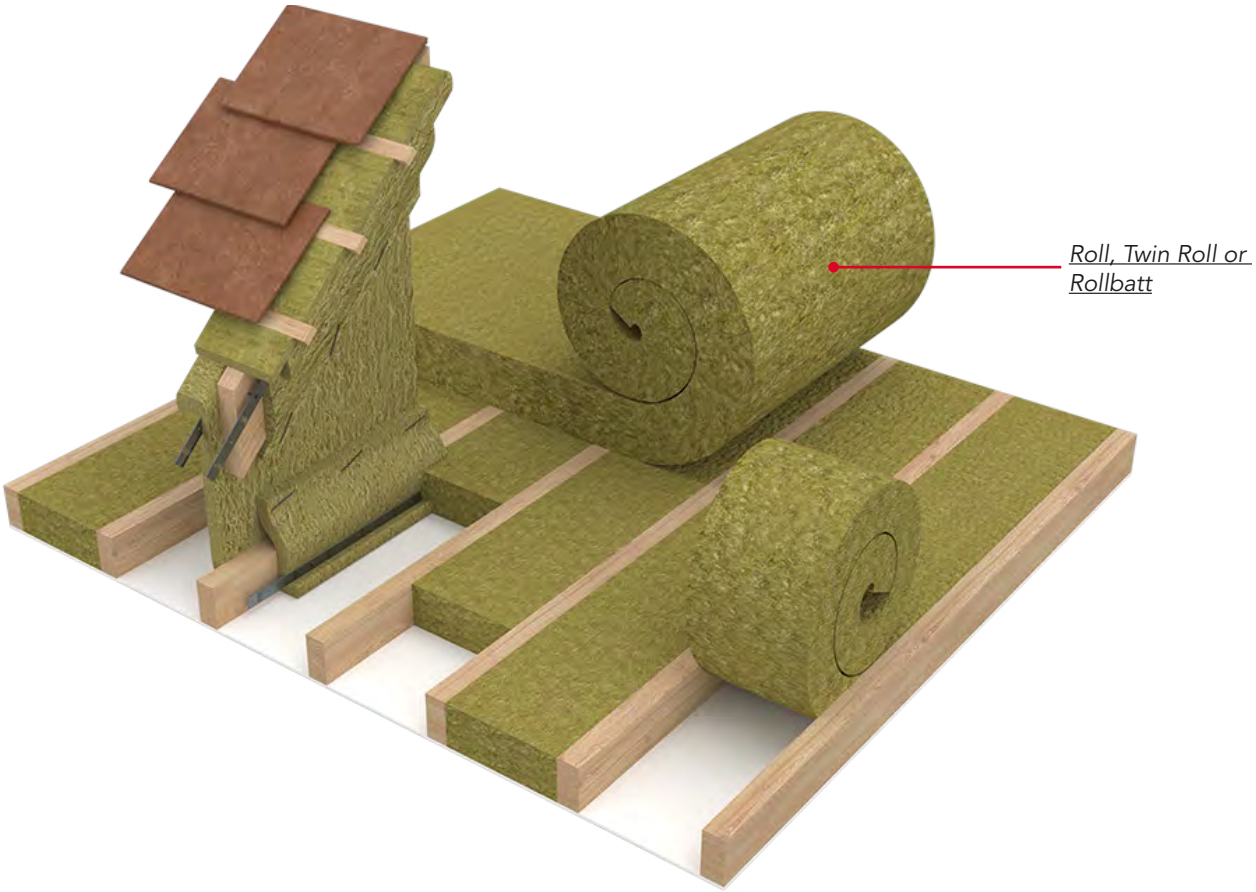
Simple, but incredibly effective.

As a traditional method of building construction, pitched roof systems remain a popular solution in the 21st century owing to the versatility they afford to create additional space, require low maintenance and have a long life span. Insulating the loft space of a pitched roof is one of the most cost effective and efficient ways to improve the energy performance of a property and reduce running costs.

Recognising that the insulation requirements of a pitched roof will be determined by how the roof space will be used, ROCKWOOL offers a range of products for installation between the joists, or for high performance systems, both between and over the rafters. Offering more than warmth, using ROCKWOOL for pitched roof insulation also delivers additional peace of mind through its additional advantages of sound protection and exceptional fire resistance.



Cold pitched roofs



ROCKWOOL Roll is the ideal loft insulation solution for horizontal loft application.

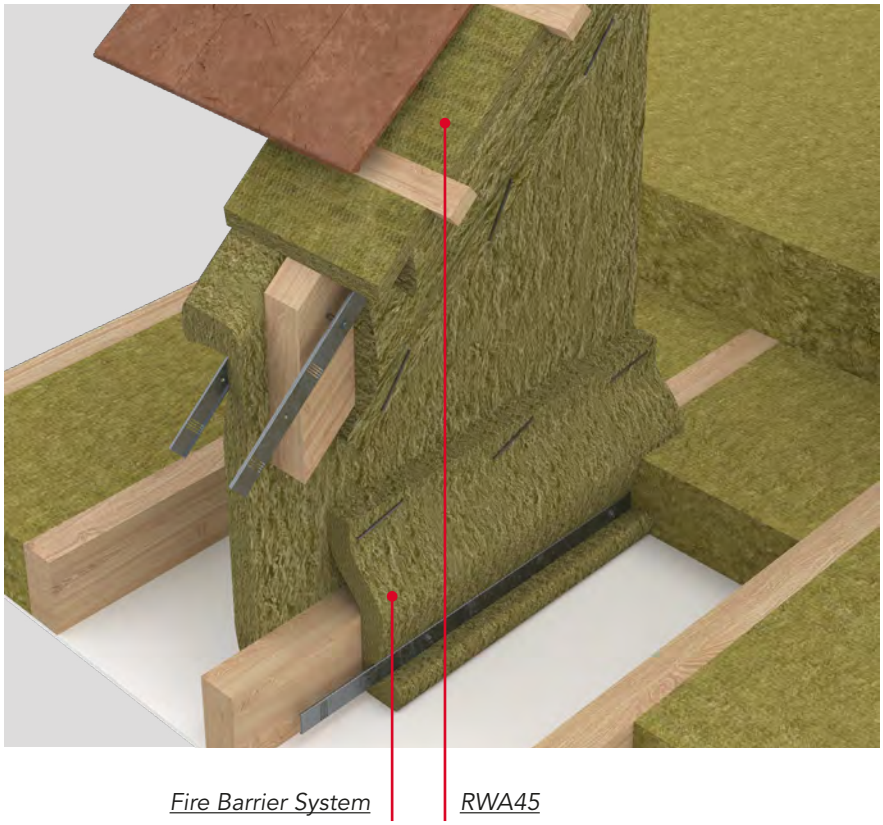
ROCKWOOL Roll is made up of medium density mineral wool insulation. The thermal insulation boasts acoustic properties and is fire resistant, rated A1 Euroclass non-combustible. The insulation solution is suitable for horizontal roof application in all building types, or can be used as an acoustic absorber in suspended ceilings.

- Roll, Twin Roll & Rollbatt is Euroclass A1 non-combustible.
- Non directional, stone wool fibres absorb soundwaves and dampen vibration.

U-value (W/m^2K)	ROCKWOOL Roll between joists (mm)	ROCKWOOL Roll over joists (mm)	Total insulation thickness (mm)
0.17	100	150	250
0.16	100	170	270
0.14	100	200	300
0.12	100	250	350
0.11	100	300	400

Fire Barrier System

- Fire Barrier systems can be used to prevent the spread of fire and smoke in pitched roof spaces.



Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
Roll, Twin Roll, Rollbatt	✓	Euroclass A1	-	-
Fire Barrier System	-	Euroclass A1	Integrity: Up to 60mins Insulation: Up to 60mins	LPCB (Certificate 022c)

Product specification

Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
Roll	P10-125, P10-135, P10-140, P10-170, P10-190, P10-217, P10-220, P10-240, P10-250	3650	1200	100-220
Twin Roll		2750	1200	
Rollbatt		3650, 4800	400, 600	
Fire Barrier System	K10-530, K10-545, K40 - 287, P10-410, P10-430, P10-440	3500, 4000	1000	50-60

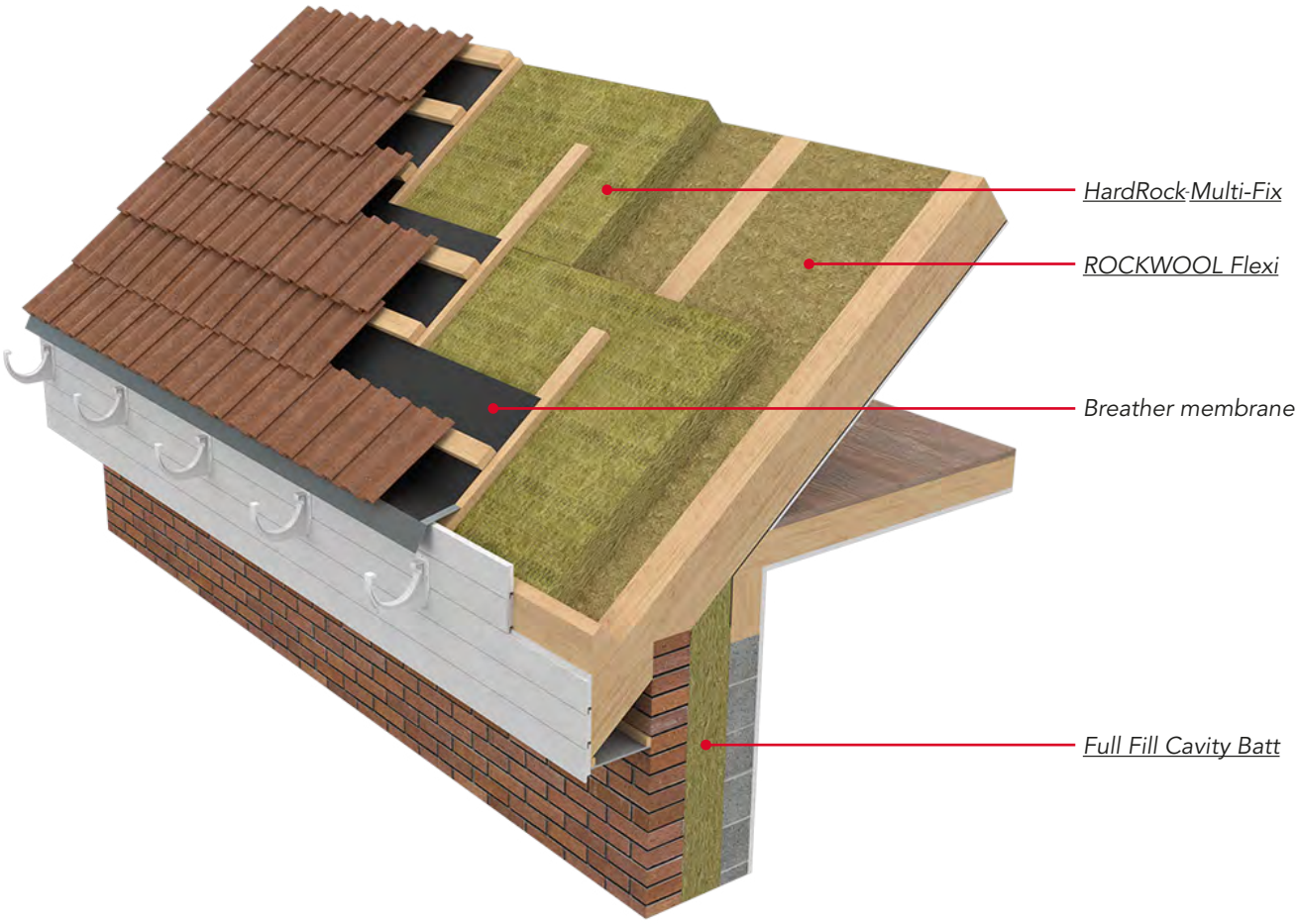
*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

Roll

Fire Barrier

Warm pitched roofs



ROCKWOOL RockFall® insulation is compatible with all types of pitched roof systems.

RockFall has been specially designed as an over rafter mineral wool insulation system for warm pitched roofs and habitable lofts. The solution is made up of HardRock Multi-Fix (DD) Overlay Boards that are mechanically fixed over the rafters, ROCKWOOL Flexi is then fitted between the rafters.

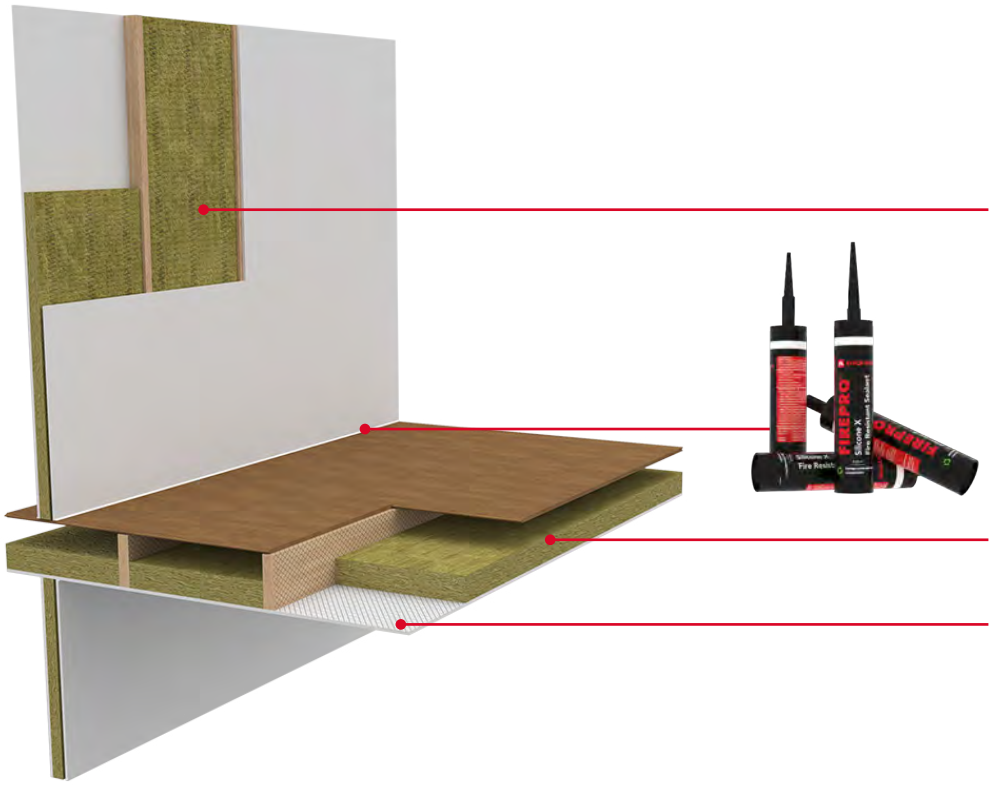
- HardRock Multi-Fix DD has a Euroclass rating of A2-s1, d0 and ROCKWOOL Flexi is Euroclass A1.

- Reduces external noise from rain, aircraft, road and rail.

U-value (W/m^2K)	HardRock Multi-Fix over rafters (mm)	ROCKWOOL Flexi between rafters (mm)
0.21	85	100
0.17	85	140
0.15	85	180
0.14	85	200
0.13	85	220

Wall & floor solutions

ROCKWOOL Flexi provides a single solution for multiple warm pitched roof applications.



Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
ROCKWOOL Flexi	✓	Euroclass A1	60 minute floor	-
HardRock Multi-Fix	✓	Euroclass A2-s1, d0	-	LPCB (Certificate 022g)

Product specification

Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
ROCKWOOL Flexi	K10-115, K10-125 K10-145, K10-155 K10-165, K10-215 K11-115, K11-125 K11-135, K11-145 K11-795, K11-796 K20-150, K21-120 K21-130, K21-140 P10-140, P10-170 P10-240, P10-250	1200	400, 600	50-200
HardRock Multi-Fix	J21-425, J31-334 J41-425, J42-425 K11-695	1000	1200	60-185

*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

- ROCKWOOL Flexi
- HardRock Multi-Fix

Floor solutions

Create comfortable interiors with confidence.

With a ROCKWOOL flooring solution for every application, specifiers can create comfortable interiors with confidence.

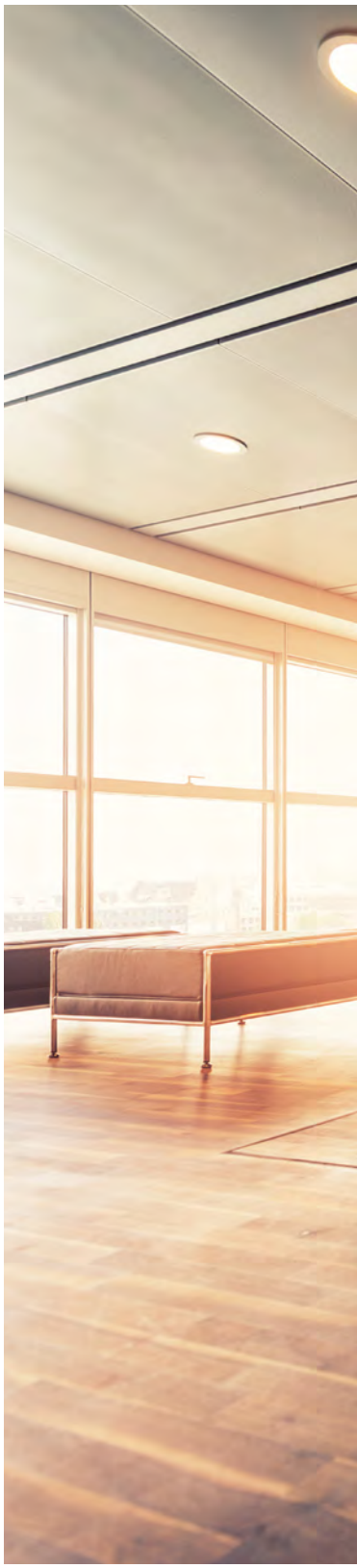
As high-rise living and buildings with multiple-occupancy become increasingly common, acoustic performance of intermediate and separating floors is key in design criteria and specifications.

The natural acoustic performance of ROCKWOOL effectively reduces the passage of sound within and between dwellings – contributing to a peaceful and calm environment that promotes health and wellbeing.

Energy efficiency is becoming more of a focus in UK construction, which means the thermal performance of ground floors is coming to the fore in sustainable design criteria and specifications.

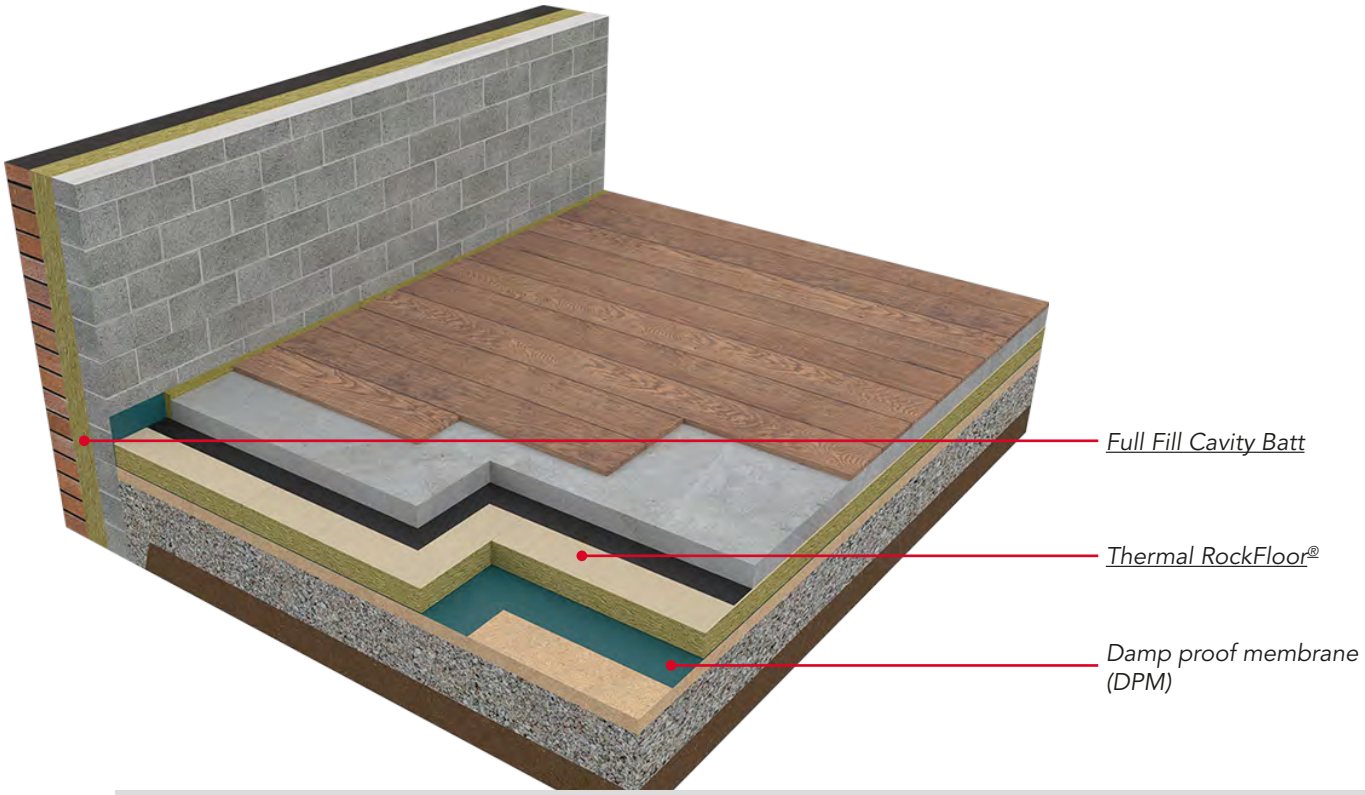
When insulating ground floor slabs, ROCKWOOL flooring solutions help to improve the overall U-value rating of a building while separating and suspended floors benefit from high levels of thermal performance to help regulate interior temperatures – creating a comfortable indoor climate for building occupants.

ROCKWOOL flooring solutions are easy to install with the tight joints reducing both sound flanking and heat loss.



Ground floors

Ground bearing slab



Thermal RockFloor is a dual density thermal insulation solution designed for ground floor slab or suspended concrete beam and block floor applications.

Thermal RockFloor can be installed below concrete slab or screed and is also suitable for use under most timber floor surfaces including; flooring grade T&G chipboard, OSB or plywood. The dual density layers allow for unevenness and imperfections on the sub-floor surface to be absorbed, while the high density upper layer provides the required load resistance.

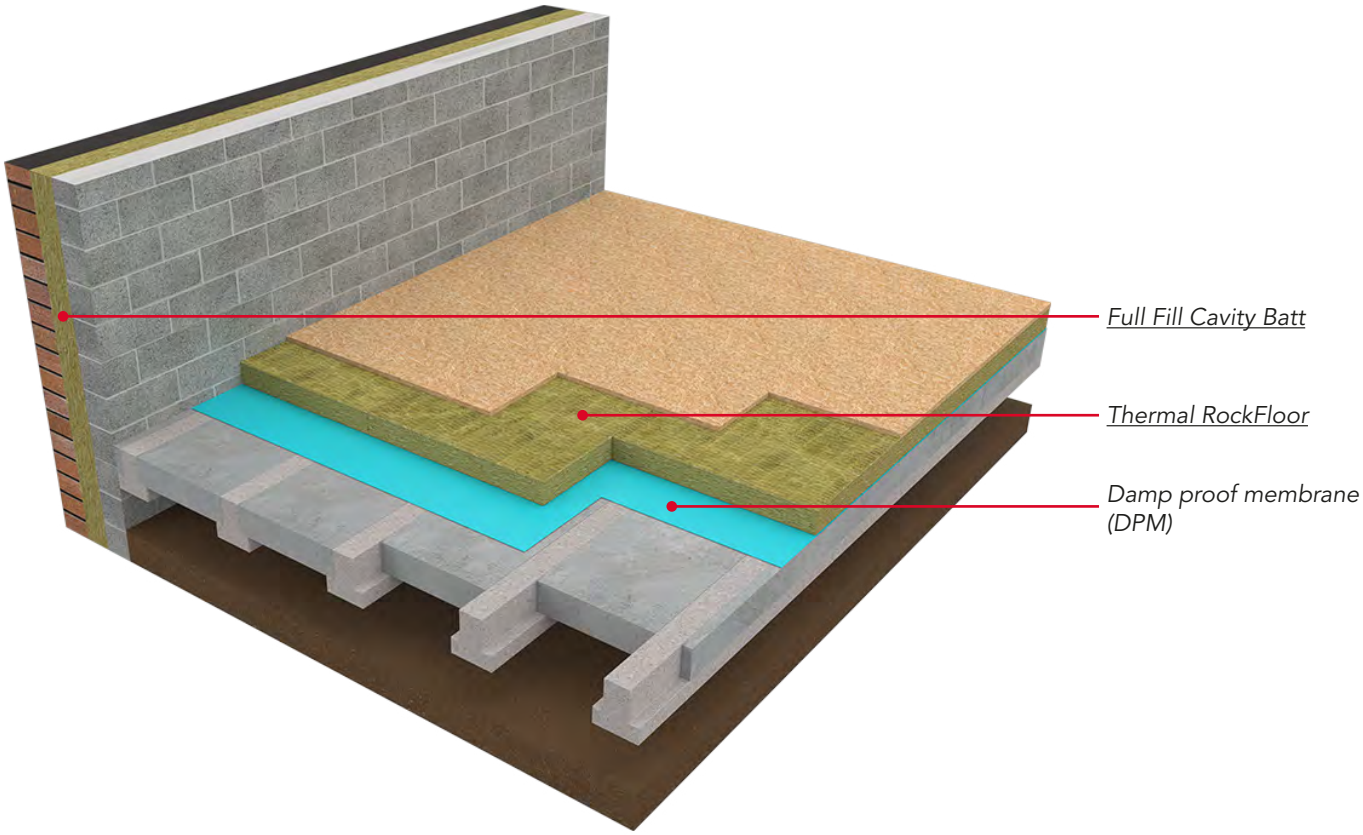
Thermal RockFloor achieves Euroclass A1 fire resistance.

U-value	Thermal RockFloor *thickness required (mm)									
	0.22		0.2		0.18		0.15		0.13	
P/A Ratio	Ground[1]	Suspended[2]	Ground[1]	Suspended[2]	Ground[1]	Suspended[2]	Ground[1]	Suspended[2]	Ground[1]	Suspended[2]
0.1	0	30	0	50	0	65	40	110	70	150
0.2	50	80	65	100	85	120	120	160	160	200
0.3	80	100	95	120	115	140	150	180	190	210
0.4	95	115	110	130	130	150	170	190	210	230
0.5	100	120	120	135	150	160	180	200	220	230
0.7	115	125	135	145	155	165	195	200	230	245
0.9	125	130	140	150	160	165	200	210	235	245

*The thicknesses quoted may be subject to minimum production volumes. Please contact ROCKWOOL Technical Support to discuss specifications that require thicknesses above 200mm.

[1]65mm screed, 150mm medium density (2000kg/m³) concrete, DPM [2]18mm chipboard, 100mm beam & block

Ground floors
Suspended beam & block



Standards & approvals

Product	CE Marking	Reaction to fire
Thermal RockFloor	✓	Euroclass A1

Product specification

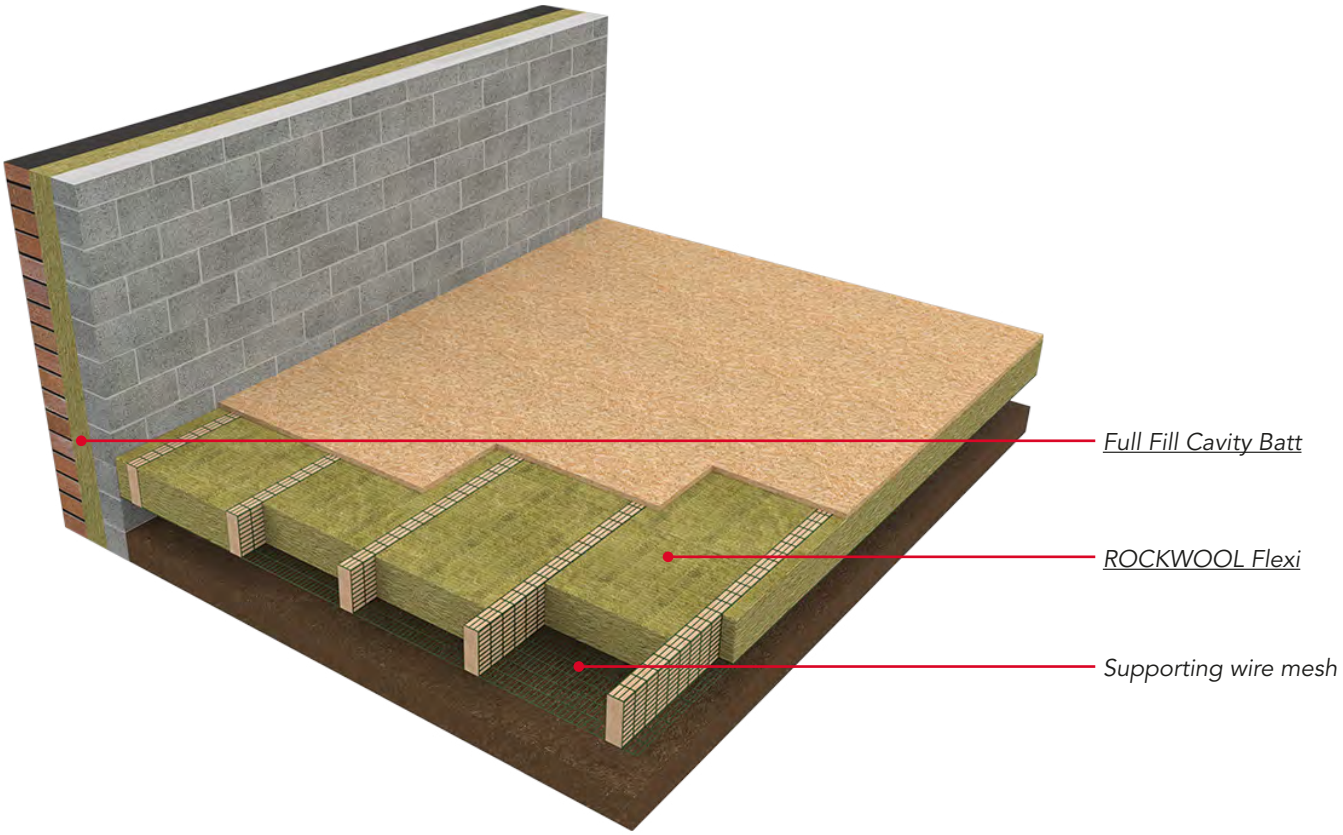
Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
Thermal RockFloor	E20-200 K11-215 K11-225 K11-235 K11-245 M10-290 M13-260	1000	600	50-185

*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

Thermal RockFloor

Ground floors
Suspended timber



ROCKWOOL Flexi provides thermal insulation for suspended timber floors.

The flexible edge enables a tight friction fit that eliminates gaps; reducing thermal bridging and cold spots.

ROCKWOOL Flexi achieves Euroclass A1 fire resistance.

U-value	ROCKWOOL Flexi *thickness required (mm)[1]				
P/A Ratio	0.22	0.2	0.18	0.15	0.13
0.1	30	50	70	120	160
0.2	100	120	140	190	230
0.3	120	140	160	220	260
0.4	130	155	180	230	280
0.5	140	160	190	230	280
0.7	150	175	200	250	285
0.9	160	180	210	250	310

*The thicknesses quoted may be subject to minimum production volumes.

[1]18mm chipboard, timber joists at 400mm centres.

Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
ROCKWOOL Flexi	✓	Euroclass A1	-	-

Product specification

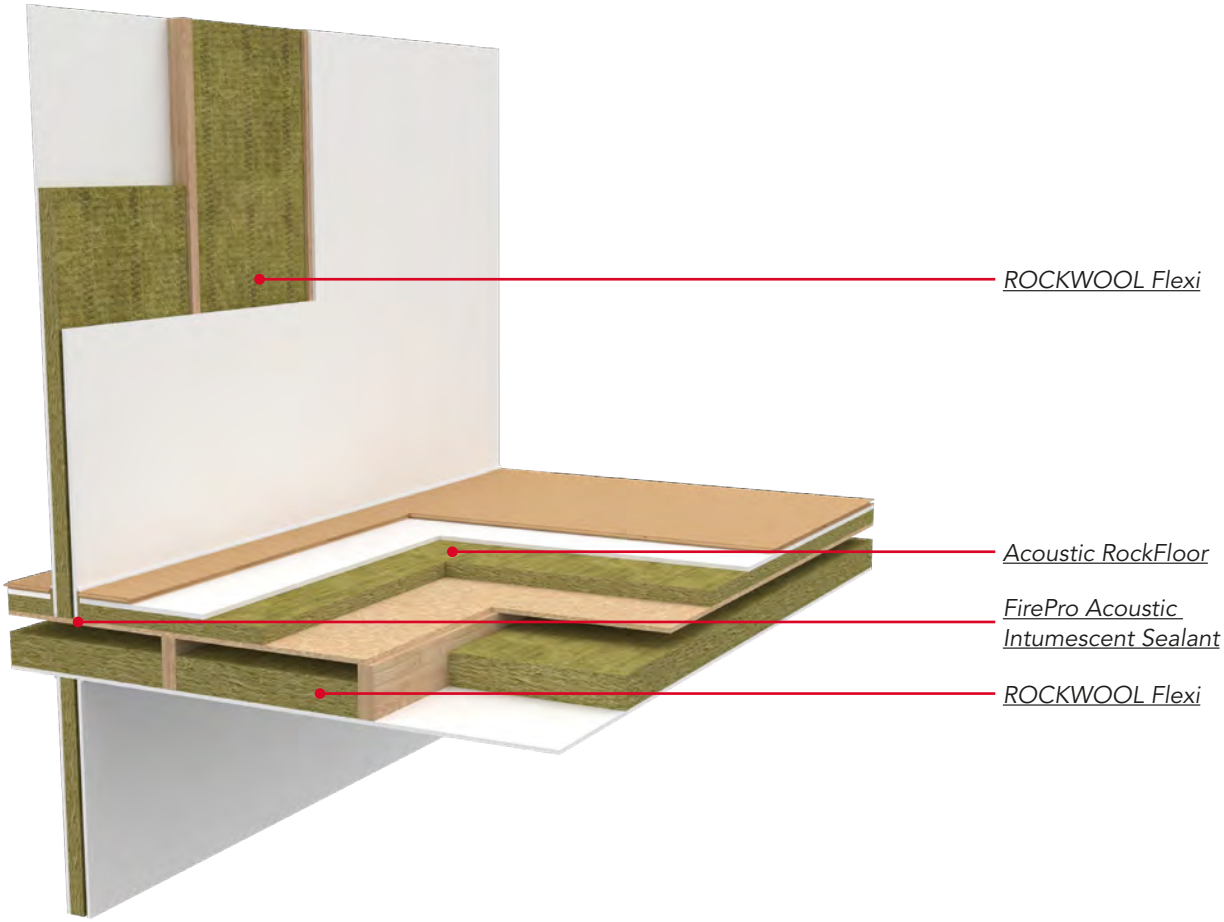
Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
ROCKWOOL Flexi	K11-115 K11-125 K11-135 K11-145 K20-150 K21-120 K21-130 K21-140 P10-240	1200	400 & 600	50-200

*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

ROCKWOOL Flexi

Separating floors
Acoustic timber



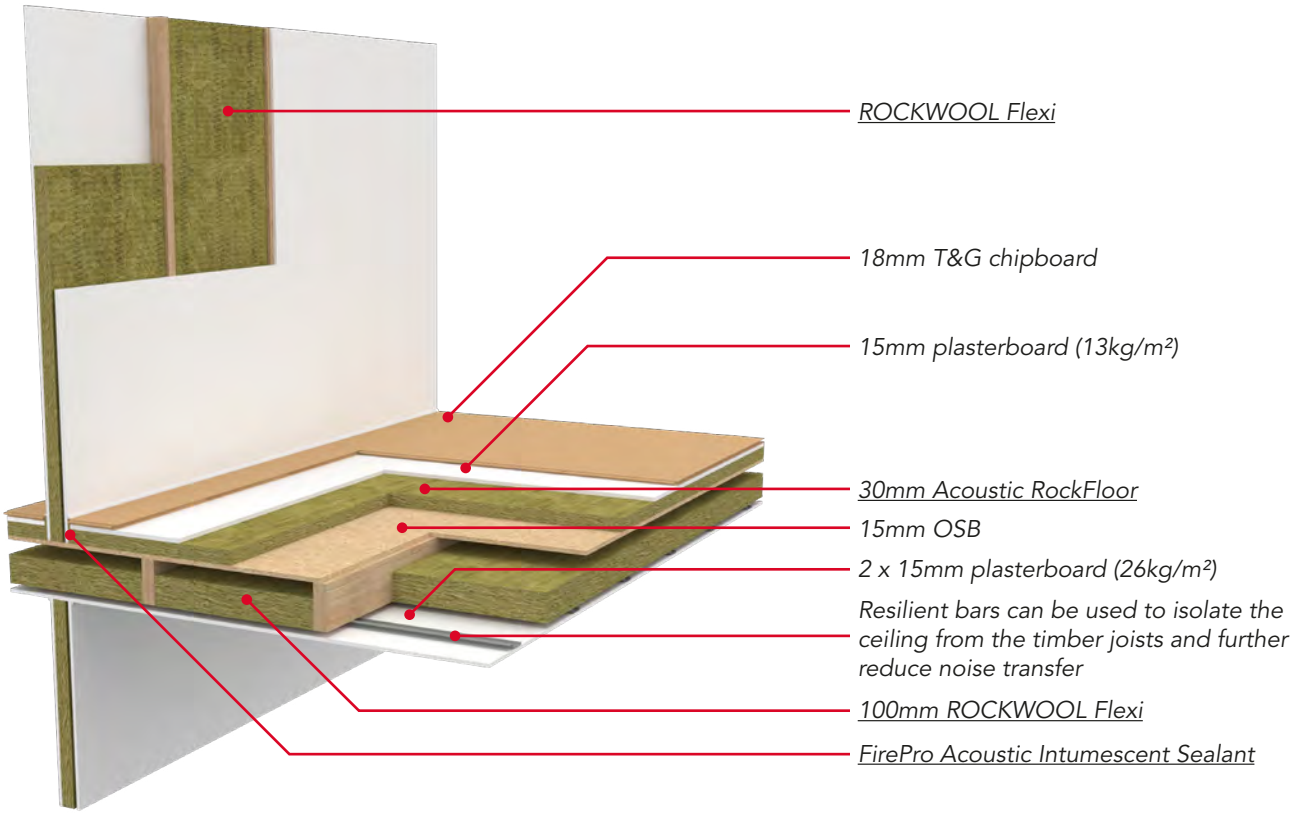
ROCKWOOL Flexi and Acoustic RockFloor can be used in isolation or combined to provide high levels of airborne and impact sound reduction within separating floor structures.

In addition, the combination of the two products also provides a non-combustible barrier that can reduce the spread of fire between floors.

ROCKWOOL Flexi achieves Euroclass A1 fire resistance

Example specification	Performance
18mm T&G chipboard	**Airborne Sound Reduction** RW (C;Ctr) = 66 (-5; 12) dB **Impact Sound Reduction** $L_{n,w}$ = 58 dB
15mm Plasterboard (13kg/m²)	
30mm Acoustic RockFloor	
15mm OSB	
100mm ROCKWOOL Flexi	
Resilient bars at 400mm centres	
Two layers of 15mm Plasterboard (26/kg/m²)	

Acoustic timber floor with resilient bars



Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
Acoustic RockFloor	✓	Euroclass A1	-	-
ROCKWOOL Flexi	✓	Euroclass A1	-	-

Product specification

Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
Acoustic RockFloor	K11-215, K11-225 K11-235, K11-245 K21-111, K21-115 K21-145, K21-146 M10-290, M13-260	1000	600	25-50
ROCKWOOL Flexi	K11-115, K11-125 K11-135, K11-145 K20-150, K21-120 K21-130, K21-140 P10-240	1200	400 & 600	50-200

*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

- Acoustic RockFloor
- ROCKWOOL Flexi

Internal walls and floors

Reduce noise and protect people with a single specification.

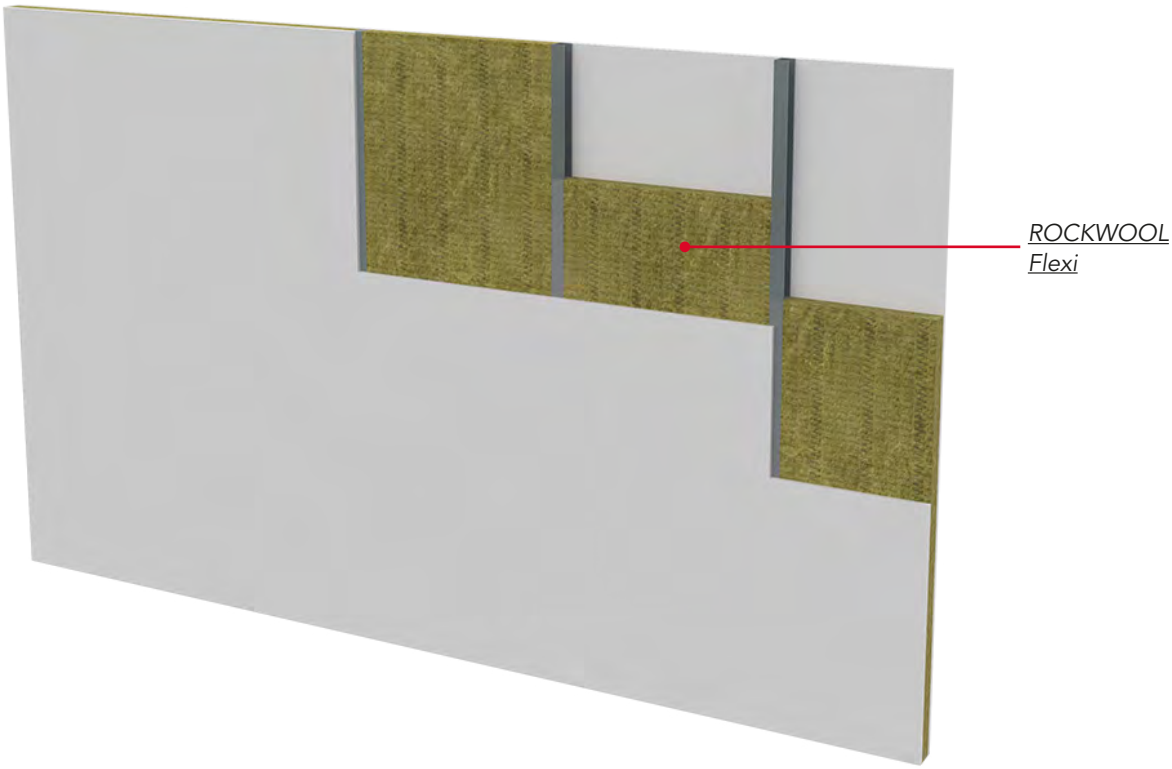
Applying ROCKWOOL stone wool insulation to the core of internal partitions and floors supports in improving noise reduction by significantly increasing sound absorption, meaning that even the noisiest areas sound quieter.

As non-combustible insulation, specifying ROCKWOOL internal wall and floor solutions offers increased peace of mind by helping to reduce the spread of fire – protecting people and property.

Extremely easy to handle and install on-site, ROCKWOOL internal wall and floor solutions help to protect the integrity of design by minimising risk of installation error on-site.

Internal walls and floors

Timber and metal stud



ROCKWOOL Flexi delivers exceptional acoustic performance due to its density and non-directional fibre orientation which traps sound waves and dampens vibration.

Made from non-combustible stone wool ROCKWOOL Flexi is capable of withstanding temperatures up to 1000°C.

ROCKWOOL Flexi achieves Euroclass A1 fire resistance

Tested solutions

Internal wall (Test report: AIRO L/1944/A/5 (RTP03))	Internal floor (Test report: L03-264)	Performance
75 x 44mm timber stud	18mm T&G chipboard	Sound Reduction R_w 40dB
50mm ROCKWOOL Flexi between studs	100mm ROCKWOOL Flexi between timber joists (400mm centres)	
One layer of 12.5mm standard plasterboard (min 8.4kg/m²) to each side of the wall	Standard 12.5mm plasterboard (8.4kg/m²)	

Standards & approvals

Product	CE Marking	Reaction to fire	Fire resistance	3rd party certification
ROCKWOOL Flexi	✓	Euroclass A1	-	-

Product specification

Product	NBS Clauses	Length (mm)	Width (mm)	*Approved thickness range (mm)
ROCKWOOL Flexi	K10-115 K10-125 K10-145 K10-155 K10-165 K11-795 K11-796	1200	400 & 600	50-200

*Thickness options may be subject to a minimum production volume. For further information on our standard thickness range please visit www.rockwool.com/uk

BIM objects

ROCKWOOL Flexi

Case study

Grange University Hospital

Cwmbran

[>]

Client:
Aneurin Bevan Health Board

Architect:
BDP

Main contractor:
Laing O'Rourke

Façade contractor:
Central Roofing South Wales Ltd

Merchant:
SIG Bristol

Case study

Cobham Free School

Surrey

Client:
Cobham Free School

Architect:
Stride Treglown

Main contractor:
Willmott Dixon Construction

Roofing contractor:
Southern Industrial Roofing

The CPD programme

We've used our knowledge and technical expertise to create informative and enjoyable CPDs. Each CPD has been designed to explain the unique benefits of stone wool insulation, its suitability for the built environment and the design freedom that can be achieved.

The essential CPD programme for construction professionals includes:

To arrange a CPD session or to learn more about the topics covered, please visit www.rockwool.com/uk/cpd

A guide to HVAC standards & applications

This CPD focusses on providing an understanding of the standards and guidance relating to the HVAC industry in addition to total insulation solution applications to provide the comfort, health and safety to buildings which need to be firestopped. [>]

Creating resilient timber frame buildings

This CPD will look at the guidance issued in detail and review testing carried out by ROCKWOOL to mitigate fire risk during construction. [>]

EN tested fire duct systems

Our new HVAC CPD provides information and guidance on the latest BS EN test standards and harmonised product standards for fire duct systems. [>]

A-rated products

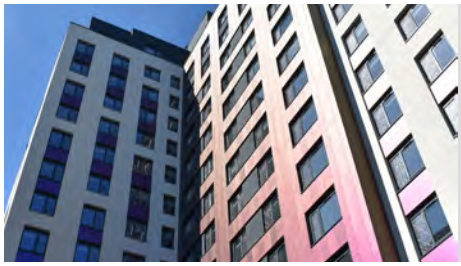
Learn about product combustibility and Euroclass ratings, how these relate to Approved Document B and Routes to Compliance on High Rise and High Risk Buildings. [>]

Building envelope

This session looks at the use of non-combustible beyond the façade, highlighting key areas where non-combustible insulation can easily be incorporated. [>]

Fire Stopping - Understanding your Liability

This CPD will provide insight into how you can fulfil your legal responsibilities through improved knowledge and adopting best practices. [>]



A to Z of Essential Principles: Passive Fire Protection Solutions

This CPD has been developed to provide a deeper knowledge of the core Essential Principles relating to passive fire safety.

Image credit: Intersect Architects Ltd. and Gilltown Ltd)

[>]

Compartmentation

Explaining the key differences between reaction to fire and fire resistance, the session aims to provide a basic understanding of compartmentation and firestopping within a building.

[>]

Fire safety of buildings above 18m: Designing out risks

This CPD will take an in depth look at how to comply with fire safety performance within rainscreen systems that are designed for buildings above 18 metres.

[>]

Acoustic standards in schools

This CPD addresses the noise and poor acoustic issues in schools affecting the learning environment.

[>]

The Fifth Facade

Guidance on mitigating the risk of spread within flat roof systems.

[>]

Retrofitting rainscreen insulation and cladding

In this CPD, learn more about the role of non-combustible insulation in improving thermal and acoustic performance in existing buildings.

[>]

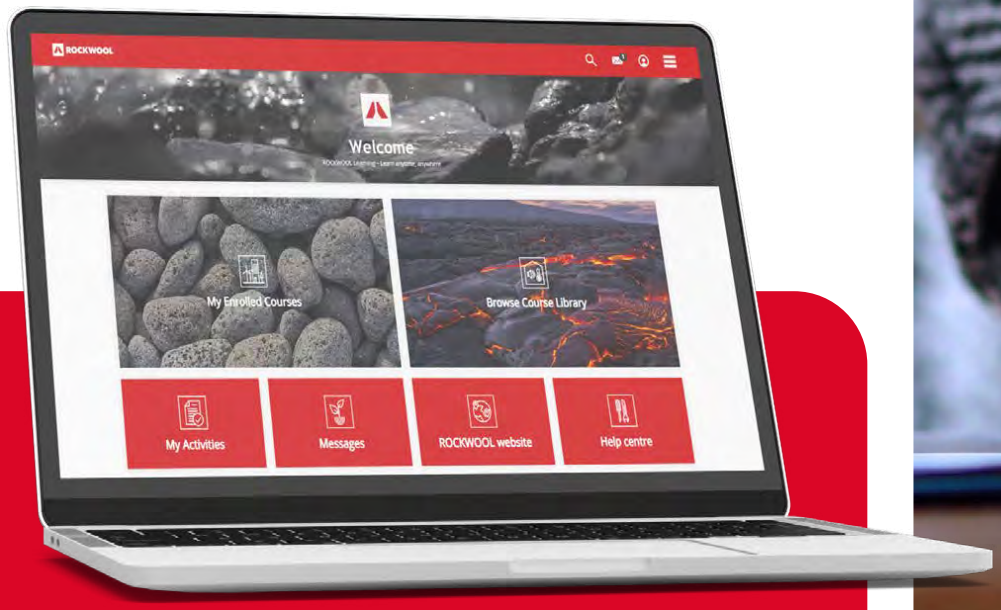
Passive fire protection for structural steel

Learn key considerations for the fire protection of structural steel.

[>]

Learn anytime, anywhere

Introducing ROCKWOOL Learning



ROCKWOOL Learning makes it easier for construction professionals to access professional development opportunities and track progress with accredited CPD hours.

Register today to:

- Build a self-guided learning pathway
- Track your completed courses and CPD hours
- Expand your knowledge at a time and place that suits you
- Develop your knowledge of construction and insulation best practice

Register now:

rockwool.com/uk/rw-learning

ROCKWOOL®

rockwool.com/uk

Insulation specification support for your sector

Visit now:

rockwool.com/uk/sectors

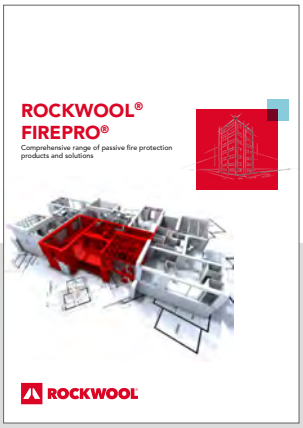
ROCKWOOL®

www.rockwool.com/uk

Additional resources

The ROCKWOOL Red Book is part of a suite of specialist guides. The following are also available to support the specification of ROCKWOOL solutions in HVAC and fire protection applications:

HVAC Book



FIREPRO® Book

All supporting product documentation for solutions detailed in the Red Book is available to download from the ROCKWOOL website, including:

- Product Datasheets
- Material Safety Datasheets
- Brochures
- Reports
- Price Lists
- Certificates

SoundPro Book

Part L Document

Register now at www.rockwool.com/uk to receive the latest technical updates.

Share your feedback

Is the ROCKWOOL Red Book providing you with the specification support you need?

Let us know how we can improve the content: go.rockwool.com/redbook-feedback

Legal disclaimer

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.

ROCKWOOL Limited does not accept responsibility for the consequences of using (including testing or certifying) its products in applications different from those explicitly described in the relevant ROCKWOOL product datasheets. Expert advice should be sought, and ROCKWOOL Limited should be contacted, where such different use is contemplated, or where the extent of any use described by ROCKWOOL Limited is in doubt.

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:

ROCKWOOL®, RockClose®, RainScreen Duo Slab®, HardRock®, RockFloor® Flexi®, RockFall®, FirePro®, DuctRock®, BeamClad®, NyRock®

Photography and illustrations

The product illustrations are the property of ROCKWOOL Limited and have been created for indicative purposes only.

Unless indicated below, the photography and illustrations used in this guide are the property of ROCKWOOL Limited. We reserve all rights to the usage of these images.

If you require permission to use ROCKWOOL images, you must apply for a Usage Agreement.

To apply, write to:
marketcom@rockwool.com

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.

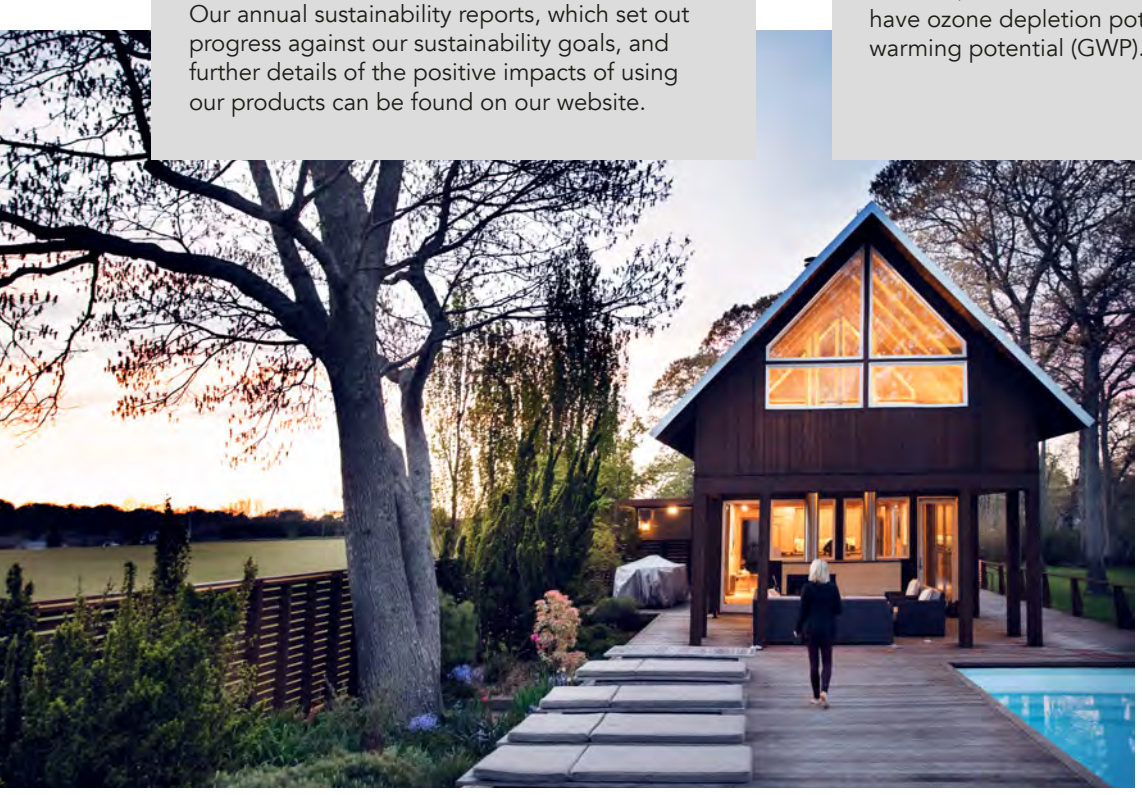
Our annual sustainability reports, which set out progress against our sustainability goals, and further details of the positive impacts of using our products can be found on our website.

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).



August 2023

ROCKWOOL Limited

Pencoed
Bridgend
CF35 6NY

Tel: 01656 862 621

info@rockwool.com

www.rockwool.com/uk

Version 2.07 August 2023