KNAUFINSULATION

knaufinsulation.co.za

INSULATION SOLUTIONS GUIDE - AFRICA

Choose non-combustible, high performance, sustainable insulation solutions.

Thermal | Fire | Acoustic | Sustainability | Moisture resistance

SOUTH AFRICAN INSTITUTE OF ARCHITECTS SAIA

TIPSASA THERMAL INSULATION PRODUCTS & SYSTEMS ASSOCIATION SA

saee Southern African Energy Efficiency CONFEDERATION

challenge. create. care.

CONTENTS

APPLICATION AND PRODUCT FINDER

			Roofs						Walls							Floors			HVAC & Fire
									External					Internal					
		PAGE NUMBER	Pitched roof - ceiling level	Pitched roof - rafter level	Flat roof - cold roof	Flat roof - warm roof	Built-up metal roof	Green roof	External masonry cavity walls	Framed (Metal/Timber)	Ventilated Façade	External wall insulation	Built-up metal walls	Separating (party) walls	Internal walls	Ground floors	Separating concrete floor	Internal floor	Ducts
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CURED GLASS MINERAL WOOL	Ceiling Roll (Multi Pack)	54	✓																
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ROCK MINERAL WOOL	Rocksilk® RainScreen Slab	80			✓						✓								
	Rocksilk® Building Slab	82		✓						✓					✓	✓		✓	
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	Rocksilk® Flat Roof Slab	86				✓													
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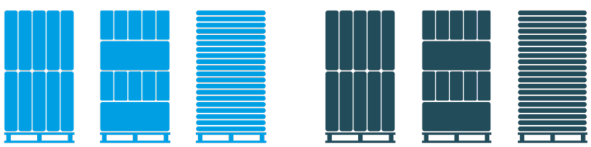
	Fire Duct Slab (Fire-teK BD 917)	94																	✓
	UrbanScape® Green Roof System	38						✓											

PROJECT RANGE



Products with this symbol are palletised. Whilst fully palletised, products are protected by an outer hood that provides weather and UV protection.

KNAUF INSULATION & THE KNAUF GROUP

With 40 years of experience in the insulation industry, we are leading the change in smarter insulation solutions for a better world.

Our mission

"Our mission is to **challenge** conventional thinking and **create** innovative insulation solutions that shape the way we live and build in the future, with **care** for the people who make them, the people who use them and the world we all depend on."

challenge.

We challenge ourselves, regulators and our industry to develop new concepts and new ways of thinking about insulation and buildings;

create.

We create innovative solutions that change the way we work and set new standards of quality, performance and sustainability;

care.

We care about what really matters: our people, our customers, our communities and ultimately, our planet.

Our vision

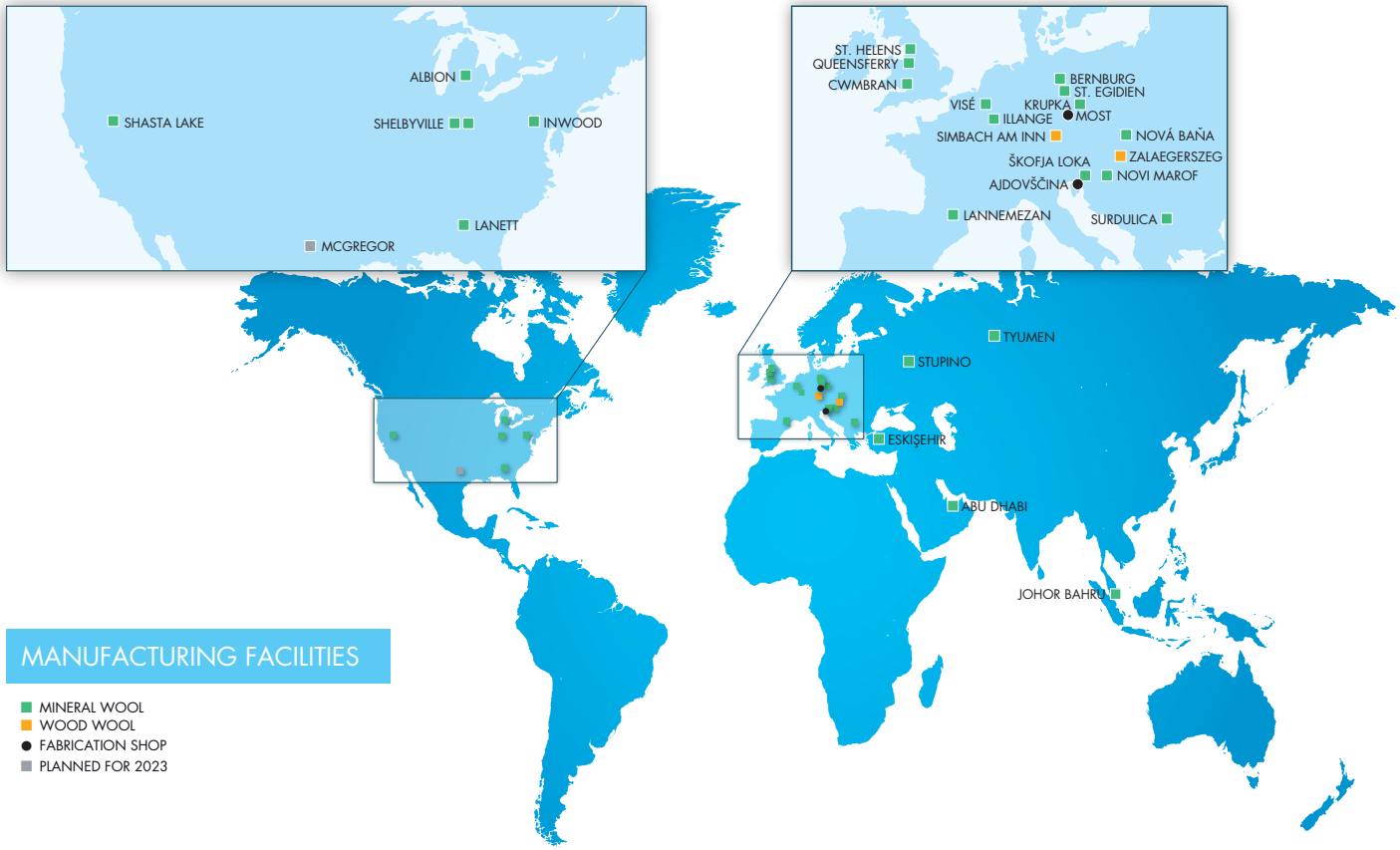
"Our vision is to lead the change in smarter insulation solutions **for a better world**. Our aspiration is to be the world's most trusted insulation partner providing high performing and smart insulation solutions and services for a better world."

We are part of the Knauf Group, a family-owned multi-national manufacturer of building materials and construction systems.

2019 figures

	Knauf Group	Knauf Insulation
	€10bn turnover	€2 bn turnover
	+35,000 employees worldwide	+5,500 employees worldwide
	250 plants & offices	27 plants & offices
	+86 countries	+15 countries

KNAUF INSULATION



MANUFACTURING FACILITIES

- MINERAL WOOL
- WOOD WOOL
- FABRICATION SHOP
- PLANNED FOR 2023

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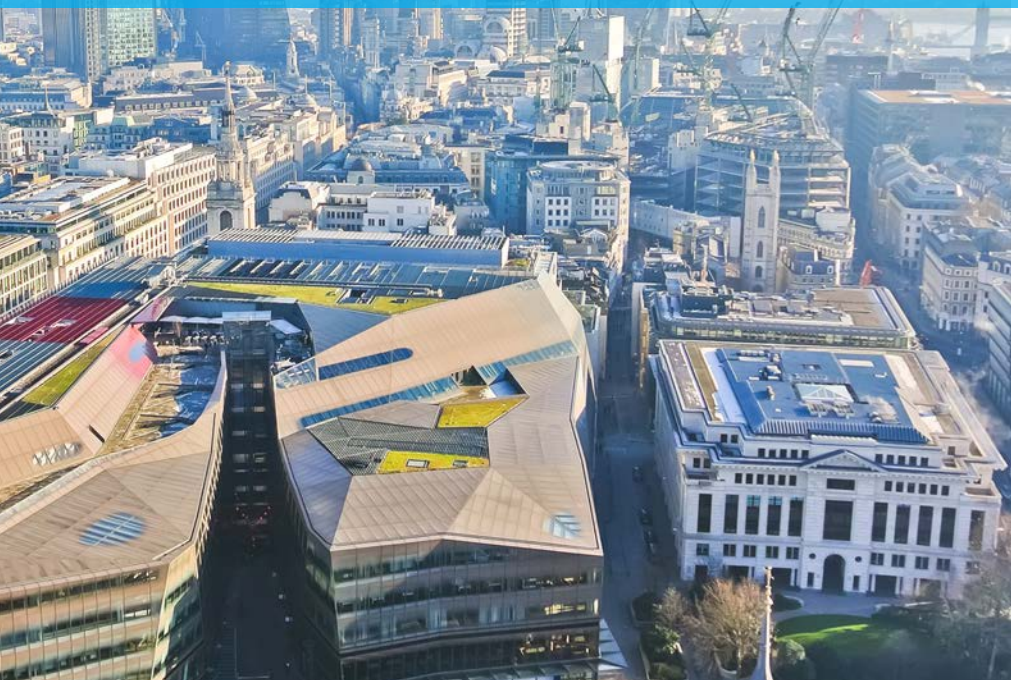
INSULATION PRODUCTS TO SUIT ALL YOUR NEEDS



We are committed to helping our customers meet the increasing demand for energy efficiency and sustainability in all buildings.

As the only manufacturer of both Glass and Rock Mineral Wool, we are uniquely placed to provide the best insulation solution for each application. We offer a wide range of insulation solutions for all applications in commercial and residential buildings, for both new build and refurbishment projects, in addition to solutions for HVAC, industrial applications and fire protection, green roofs and bespoke applications.

We offer a wide range of high performance, non-combustible insulation solutions for all buildings.

Our extensive product range is designed to provide solutions for all types of roofs, walls and floors, as well as specialist fire protection.

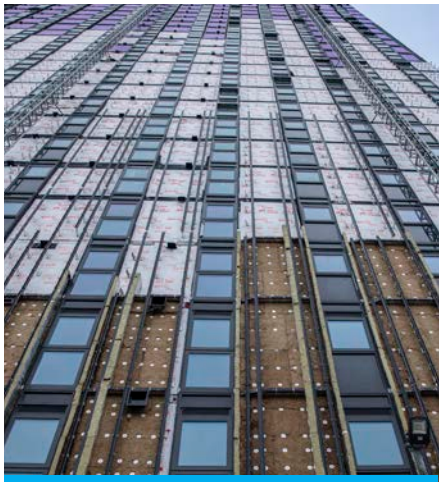
COMMERCIAL

SPECIALIST

View our range of case studies on our website:

knaufinsulation.co.za/media/case-studies

RESIDENTIAL



MULTI STOREY

Insulation solutions for green roof, landscaping and horticultural applications

We have a range of green roof, landscaping and horticultural solutions. Our Urbanscape® Green Roof System is an innovative, lightweight easy to install system and is the world's first green roof system with a Life Cycle Assessment (LCA) and Environmental Product Declaration (EPD).

Insulation solutions for technical applications

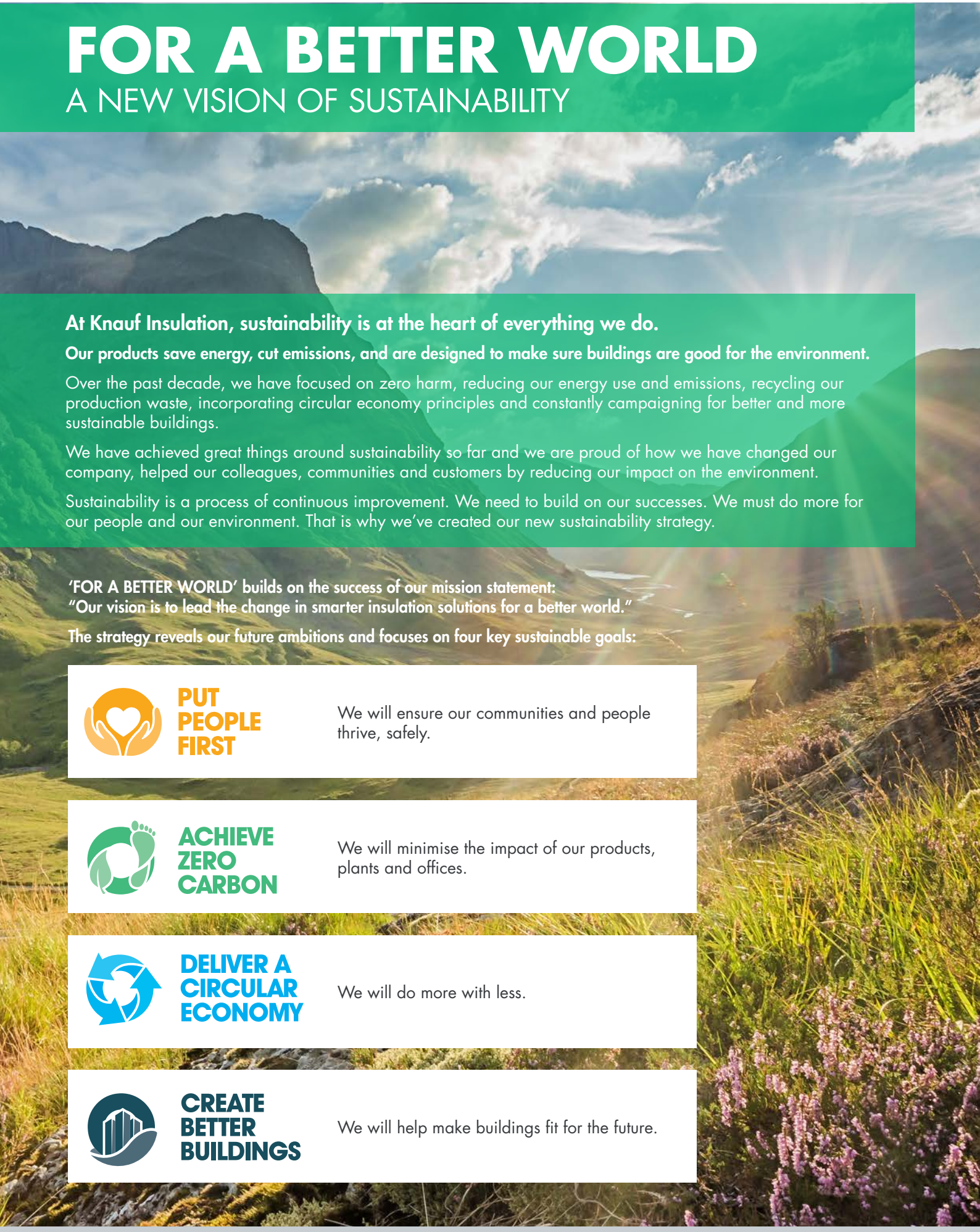
Our Technical Solutions comprise of a range of high performance insulation solutions developed specifically for the insulation requirements of HVAC systems and industrial plants. Our range covers solutions for insulating heating systems, piping and air conditioning ducts, insulating industrial plants, off-shore and power stations, and for passive fire protection.

Insulation solutions for bespoke applications

Knauf Insulation is recognised as one of the insulation leaders in the industry, owing to the fact that we offer unique insulation solutions that can be entirely tailor-made according to the needs of our customers and in line with their production processes.

FOR A BETTER WORLD

A NEW VISION OF SUSTAINABILITY



At Knauf Insulation, sustainability is at the heart of everything we do.

Our products save energy, cut emissions, and are designed to make sure buildings are good for the environment.

Over the past decade, we have focused on zero harm, reducing our energy use and emissions, recycling our production waste, incorporating circular economy principles and constantly campaigning for better and more sustainable buildings.

We have achieved great things around sustainability so far and we are proud of how we have changed our company, helped our colleagues, communities and customers by reducing our impact on the environment.

Sustainability is a process of continuous improvement. We need to build on our successes. We must do more for our people and our environment. That is why we've created our new sustainability strategy.

'FOR A BETTER WORLD' builds on the success of our mission statement:
"Our vision is to lead the change in smarter insulation solutions for a better world."

The strategy reveals our future ambitions and focuses on four key sustainable goals:

PUT PEOPLE FIRST

We will ensure our communities and people thrive, safely.

ACHIEVE ZERO CARBON

We will minimise the impact of our products, plants and offices.

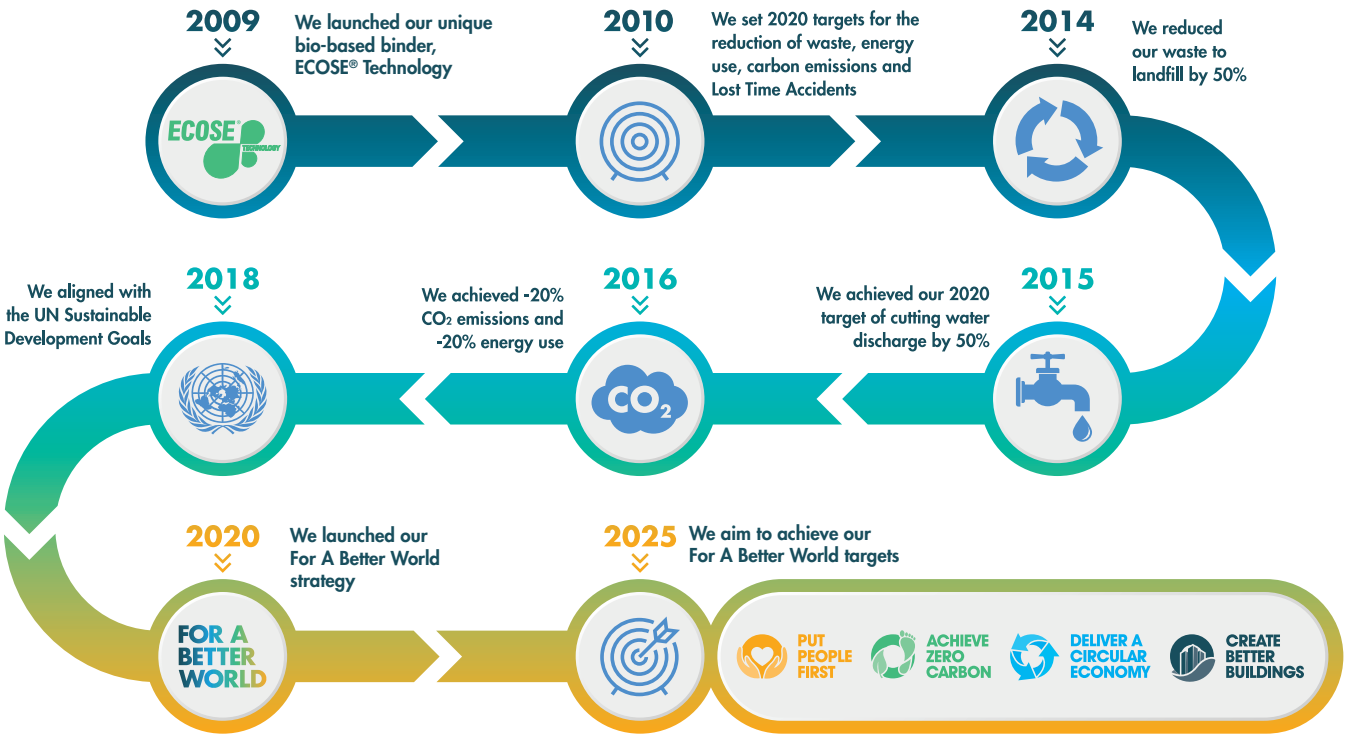
DELIVER A CIRCULAR ECONOMY

We will do more with less.

CREATE BETTER BUILDINGS

We will help make buildings fit for the future.

We are supporting our customers as they navigate an ever-changing landscape of demanding green building requirements and increasingly stringent environmental regulation. We have the experience and expertise to support our customers to achieve their sustainable ambitions.



OUR SUSTAINABILITY JOURNEY

We believe sustainability success is a process of continuous improvement. Since we started our journey we have consistently worked to reduce our environmental impact and recorded significant achievements (see below). Our new sustainability strategy builds on the success of the past decade.

OUR 2010 TO 2020 HIGHLIGHTS

ENERGY AND RELATED EMISSIONS

22.7% Reduction in **energy use**

23.2% Reduction in **related emissions**

SAFETY

Lost Time Accidents reduced by **56%**

WASTE

Waste to landfill reduced by **67.3%**

NOx

NOx reduced by **42.7%**

WATER USE

39.8% Reduction in **Water use**

80.7% Reduction in **water discharge**

Despite manufacturing output achieving record levels during the past decade, we have continued to reduce our environmental impact per cubic metre of product.

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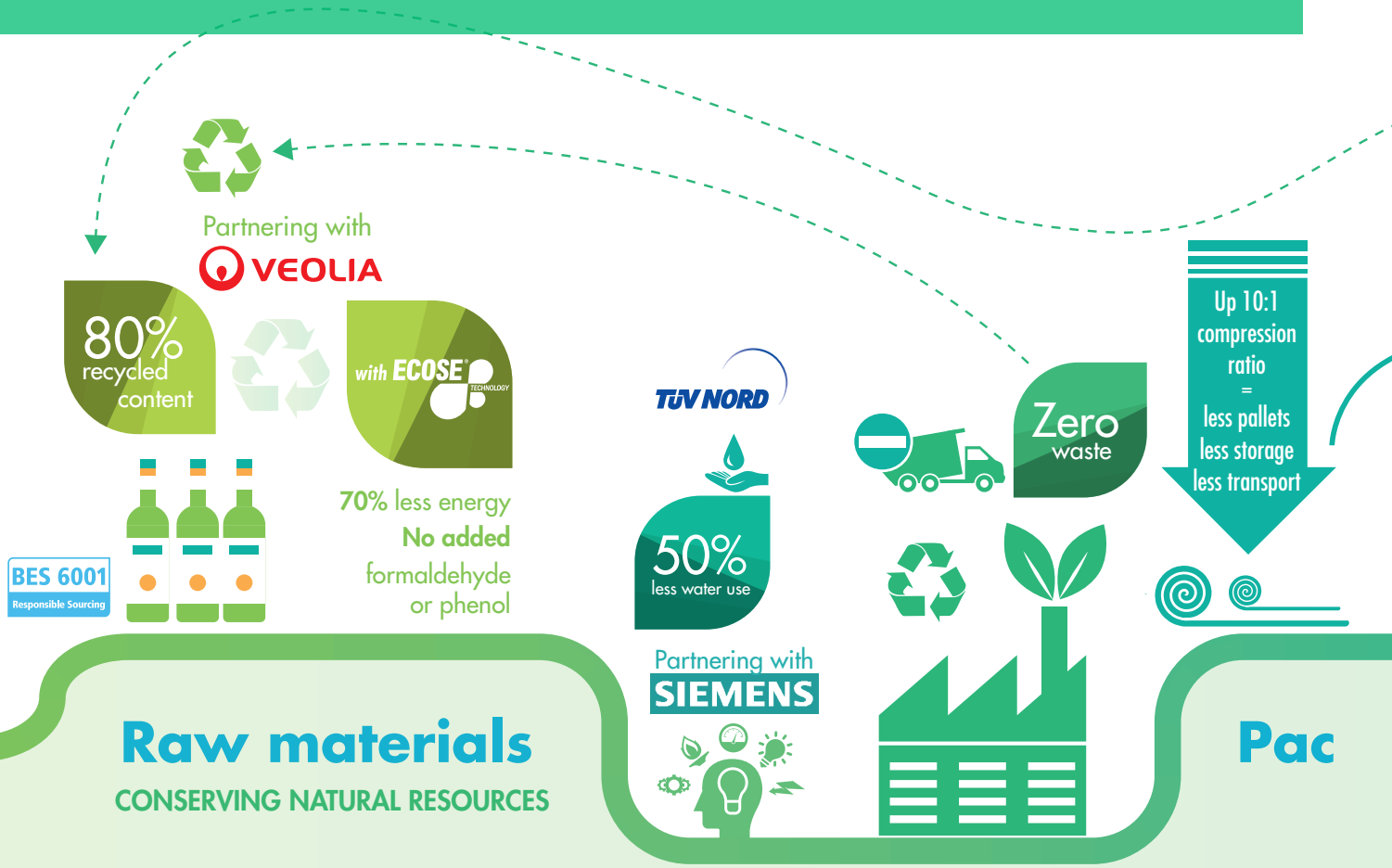
USE INSULATION MATERIALS THAT MINIMISE ENVIRONMENTAL IMPACT



Manufacturing

REDUCING THE ENVIRONMENTAL IMPACT OF OUR OWN PROCESSES

Our Glass Mineral Wool insulation solutions contain up to 80% recycled content. By maximising the amount of recycled glass in the manufacture of our products, we minimise our need for virgin raw materials.

Our unique bio-based binder, ECOSE® Technology contains no added formaldehyde or phenol. It is made from natural raw materials that are rapidly renewable and is 70% less energy-intensive to manufacture than traditional binders, so it is more environmentally-friendly.

Our work to ensure safe and legal operations in our supply chain has enabled us to achieve certification to the Building Research Establishment's responsible sourcing standard BES 6001.

Partnering with Siemens, we are unlocking efficiency opportunities to reduce our carbon footprint, saving the equivalent annual energy usage of almost 800 homes.

Our commitment to fair and safe working practices in our own facilities is embedded in our code of conduct, and reflected in the ISO 45001 certification covering all our production sites.

All our facilities are also certified to ISO 14001 and ISO 50001 standards.

We avoid waste and prevent pollution; we segregate factory waste to maximise recycling and to meet our expectation of sending zero waste to landfill from our UK plants.

As the market leader and a non-stop innovator, quality excellence and sustainability are at the heart of everything we do. Whilst we have a strong focus on the thermal, fire safety and acoustic performance of our products, our pursuit of sustainability has much wider horizons.

We are dedicated to supplying sustainable high performance insulation solutions for enhanced energy efficiency in buildings, but we also continually strive for improvements in our manufacturing and supply chain operations to improve quality and minimise our impact on the environment. All our production locations have state-of-the-art manufacturing equipment and meet the highest quality standards, supported by an ongoing research and development program.

kaging

Building

CREATING A HIGH PERFORMANCE, COMFORTABLE AND HEALTHY BUILDING ENVIRONMENT

Distribution

DELIVERING PRODUCT EFFICIENTLY

Packaging 'For A Better World'
We have recently improved our industry-leading compression-packaging, and have been able to further increase the amount of material per pack or pallet for our Glass Mineral Wool products.

This means even fewer trucks on the road, less storage and handling for our customers. In addition, we have re-designed our packaging to be more customer-centric, while reducing the amount of ink by up to 50%.

We are also introducing a new packaging film with a minimum of 30% recycled plastic content. This means the plastic we do use is even easier to recycle and reduces our carbon footprint.

Over the years, we have been trimming the weight of the pallets, cutting around 2kg per pallet, equating to a total saving of around 5,000 trees/year.

Our products contain very low levels of VOCs which affect indoor air quality, attested by their certification to Eurofins Gold Certificate for Indoor Air Comfort.

The overall environmental performance of our products is reported in Environmental Product Declarations. They are verified by an independent third-party and comply with the European standard EN 15804.

Our Glass Mineral Wool and Blowing Wool products are registered in the BRE's UK-specific Certified Environmental Profiles scheme. The majority of our products have a generic Green Guide rating of A+.

Our entire Glass Mineral Wool product range has been awarded the DECLARE 'Red List Free' label.

This allows product transparency disclosure that identifies where a product comes from and what it is made of.

MINERAL WOOL INSULATION WITH THE FEEL GOOD FACTOR

ECOSE® Technology is our unique bio-based binder which is used in the manufacture of all of our Glass Mineral Wool products, and the majority of our Rock Mineral Wool products.

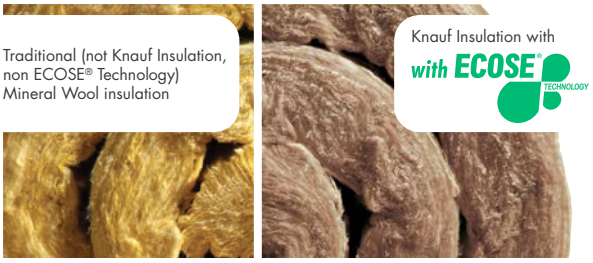
Our Mineral Wool made with ECOSE® Technology contains no added formaldehyde or phenol. This means our insulation generates very low levels of dust, increasing the comfort of those handling it. ECOSE® Technology makes our insulation soft to touch and easy to handle.

It is made from natural raw materials that are rapidly renewable and is 70% less energy-intensive to manufacture than traditional binders, so it is kinder to the environment too.

with ECOSE® TECHNOLOGY

HOW DO YOU KNOW IT'S MANUFACTURED USING ECOSE® TECHNOLOGY?

Products manufactured using ECOSE® Technology have a natural brown colour so you can see, as well as feel the difference.



with ECOSE® TECHNOLOGY

- Soft to touch
- Low levels of dust
- Low VOCs*

*Volatile Organic Compounds

***70%** less*
energy intensive to manufacture than traditional binders

No added formaldehyde or phenol

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MINIMISING THE USE OF VIRGIN RAW MATERIAL IN PARTNERSHIP WITH VEOLIA

Our high performance Glass Mineral Wool insulation contains up to 80% recycled content, most of which is glass cullet from Veolia's glass recycling facility next to our manufacturing plant in St. Helens, Merseyside.

By maximising the amount of recycled glass cullet in the manufacture of our products, we minimise our need for Mineral raw materials.

The partnership with Veolia brings many benefits:

- It provides an assurance of supply of raw materials and we are able to maintain the recycled materials content in the manufacture of our Glass Mineral Wool insulation solutions up to 80%.
- It has reduced waste going to landfill and over 60,000 tonnes of used glass bottles and jars are given a new lease of life each year.
- The partnership has provided a closed loop solution and a significant investment in the mainstream circular economy.
- The proximity of the facility saves approximately 375,000 miles of road journeys every year.

VEOLIA

OUR ACCREDITATIONS

We're proud to have gained a number of accreditations and be able to provide our customers the assurance that our products are manufactured to the highest level of quality, having passed a series of comprehensive and rigorous assessments which ensures they're fit for purpose.

Euroclass reaction to fire classification
All of our products are non-combustible and achieve the best Euroclass A1 or A2-s1,d0 reaction to fire classification.

BES 6001
The BES6001 accreditation shows that our products have been made with constituent materials that have been responsibly sourced.

BRE Green Guide Rating A+
We have received the BRE Green Guide Rating A+ for the best environmental performance for the majority of our products.

CE Marking
All our products are CE marked where required.

Eurofins Indoor Air Comfort Gold Certified
The Eurofins Gold certification for Indoor Air Comfort means our Glass and Rock Mineral Wool products are the best-in-class low VOC emissions and are therefore the ideal solution for indoor air quality.

EN 15804
Our Environmental Product Declarations (EPD) are in line with the BRE and European standard EN 15804.

Made in Britain
As a member of the Made in Britain organisation, it helps customers identify that our Mineral Wool products are manufactured in the UK.

BBA Certification
The British Board of Agreement offers third party certification for the use of building products and systems in critical applications. We have a number of products certified, and are always seeking to increase our portfolio.

ISO
All of our manufacturing plants are certified to ISO standards.

EUCEB
An independent certification authority that guarantees our Mineral Wool products are made of certified bio-soluble fibres.

RAL
A German quality mark confirming Knauf Insulation's Rock Mineral Wool products (including those made in the UK) are made of certified bio-soluble fibres and can be safely used for thermal and acoustic purposes.

DECLARE 'Red List' Free
Our entire Glass Mineral Wool range of products has been awarded the DECLARE 'Red List Free' label. This allows product transparency disclosure that identifies where a product comes from and what it is made of.

TIPSASA
Our Tipsasa mark certifies that our thermal insulation products are high quality as the company combat the usage of cheap, substandard, unsafe products and practices in the South African market.

MINERAL WOOL INSULATION PROVIDES A UNIQUE COMBINATION OF BENEFITS

THERMAL

The energy saving properties and thermal performance of insulation keep buildings warm in winter and cool in summer.

The bigger the temperature difference between the inside and outside of a building, the faster the building will lose heat in winter and gain heat in summer.

Our Mineral Wool insulation solutions help maintain a stable inside temperature by slowing heat transfer by convection, conduction and radiation.

By insulating a property properly, energy can be saved either from the heating system when heating a cold building, or from the air conditioning system when cooling a warm building.

FIRE SAFETY

The fire performance of our insulation gives it the ability to provide passive fire protection.

Buildings must be designed and constructed to minimise the risk of fire and its spread should it occur, as well as to maximise the structure's stability and the ability of occupants to escape unharmed.

As well as acting as a barrier to the fire, our non-combustible Mineral Wool insulation solutions will not add to its development stages, minimising its overall effect and consequences.

It is widely known that buildings account for 40% of worldwide carbon emissions, and increasing their energy efficiency continues to be a priority for governments as they try to combat climate change. Whilst the primary role of insulation is to provide thermal performance, choosing the right insulation will also determine a building's acoustic and fire safety properties as well as the level of comfort it provides for its users. Our Mineral Wool insulation solutions provide a **unique combination of performance**.

ACOUSTIC

The acoustic performance of insulation can help create an improved internal environment for building occupants.

Protection from noise contributes towards the 'quality of life' afforded by dwellings, and a healthy, productive and attractive environment in offices, hospitals, schools and other non-domestic buildings.

Our Mineral Wool insulation solutions provide high levels of sound absorption and noise reduction in new build or within existing buildings through retrofit, to provide improved sound insulation and acoustic comfort.

COMFORT

Insulation can help create dry, comfortable indoor environments and buildings and have a major impact on the health and wellbeing of their users.

By preventing air leaks, uncontrolled condensation and possible mould spores, mildew or microbial organic compounds, a well-insulated, airtight building envelope also contributes to the health of a building — particularly if combined with efficient installation of the solutions and a controlled ventilation system.

Our Mineral Wool insulation solutions provide all of the above benefits, but more importantly, thanks to our ECOSE® Technology, they contribute to high levels of indoor air quality and were the world's first products to be awarded the Eurofins Gold Certificate for Indoor Air Comfort.

THERMAL INSULATION FOR ENERGY-EFFICIENT BUILDINGS

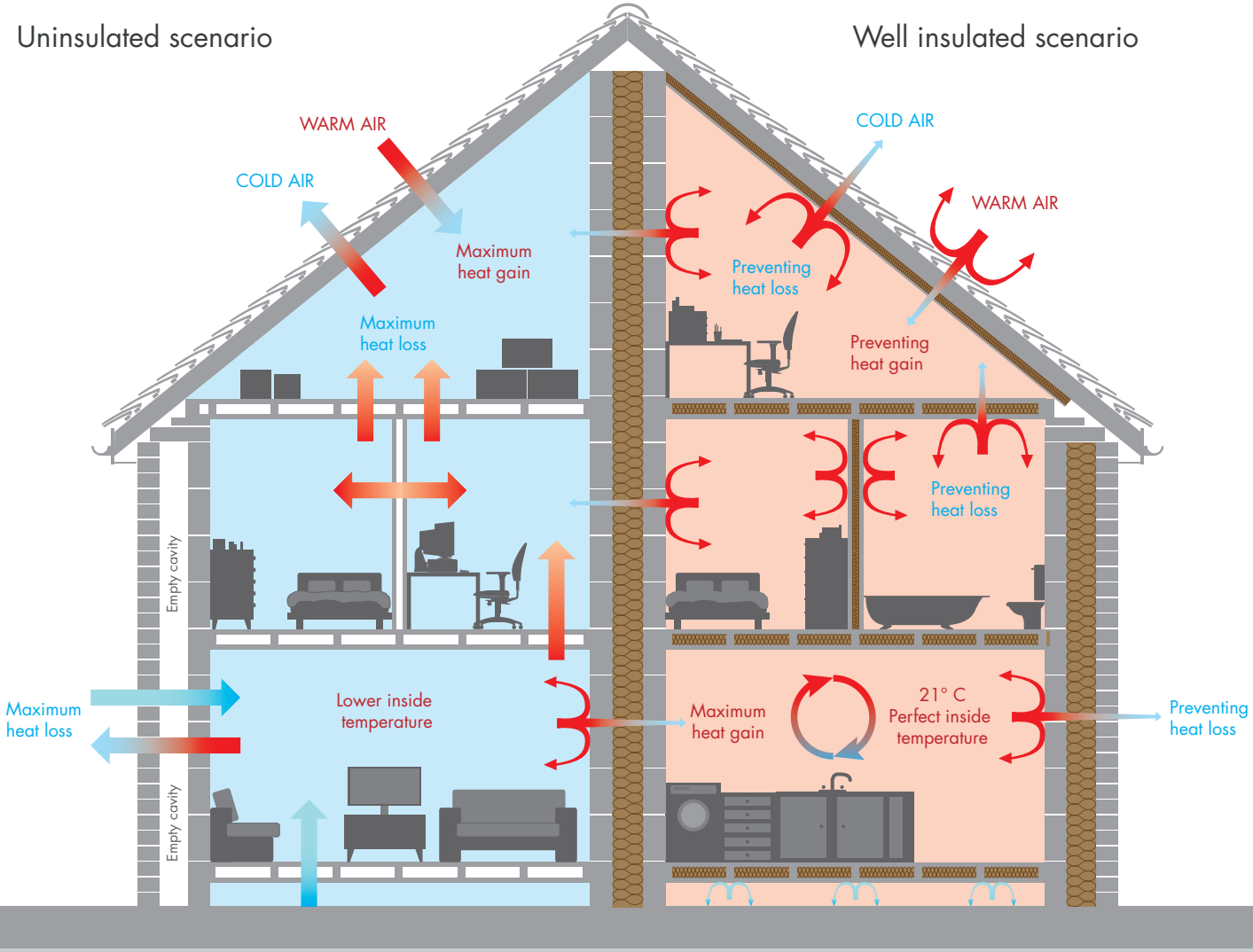
THE ENERGY SAVING PROPERTIES OF INSULATION KEEP BUILDINGS WARM IN WINTER AND COOL IN SUMMER

The bigger the temperature difference between the inside and outside of a building, the faster the building will lose heat in winter and gain heat in summer. Insulation helps maintain a stable inside temperature by slowing heat transfer by convection, conduction and radiation.

INSULATION IS CRITICAL ACROSS ALL SECTORS

A vast amount of energy is lost through the fabric of a building. Insulation incorporated into fabric can make a profound contribution to the building's long-term energy saving.

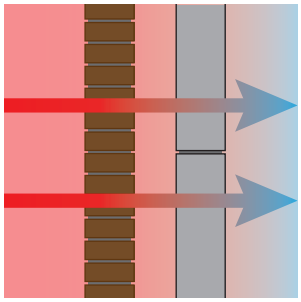
Increasingly, designers have the responsibility to improve a building's energy efficiency by designing an envelope to best achieve maximum thermal performance according to the building's function and activity. Different sectors have different requirements - for example, balancing heat retention and cooling in public and commercial buildings is often a key consideration, whereas for residential buildings, higher insulation and heat retention alone have a direct impact on the carbon emissions (and bills) associated with heating, and is the overriding design parameter.



HOW MINERAL WOOL PROVIDES PROVEN REAL ENERGY EFFICIENCY PERFORMANCE

Mineral Wool insulation is a poor conductor of heat, meaning that warm or cold air won't transfer through the material resulting in a consistent temperature inside the building. It does this by having a spider's web type structure inside of the material with millions of small air pockets that catch any heat or noise transfer from external sources, making it one of the most efficient ways of insulating any property.

It is also easier to install as the fibrous structure of the material fills the space; meaning that any imperfections in installation are negated and therefore gives a better real performance.



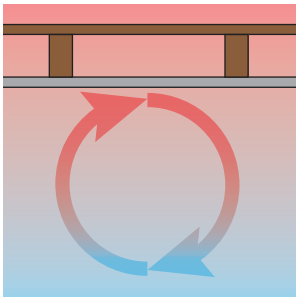
Conduction

Conduction is the transmission of heat through a material, or from one material to another, through direct contact, and can take place in solids, liquids and gases.

How conduction is reduced

To reduce heat transfer by conduction, Mineral Wool has a very small amount of solid material in relation to void.

Additionally, the solid material consists of thin connecting walls, or discontinuous fibres.

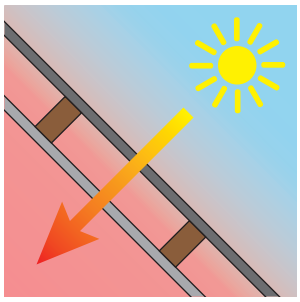


Convection

Convection occurs in gases and liquids. If a hot surface is in contact with cooler air, heat is conducted to the air. This air then becomes warmer and therefore less dense than the adjacent cooler air. The warmer, lighter air rises upwards and is replaced by cooler air, causing a continuous flow of air by natural convection – gradually removing heat from the hot surface to the air. The process is reversed if warm air comes into contact with a cold surface.

How convection is reduced

To reduce heat transfer by convection, Mineral Wool contains small voids and air pockets within which air movement is minimised.

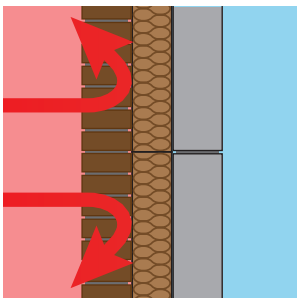


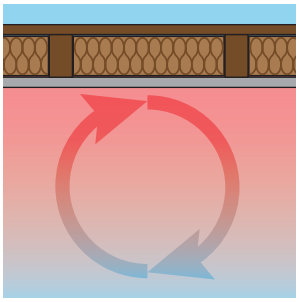
Radiation

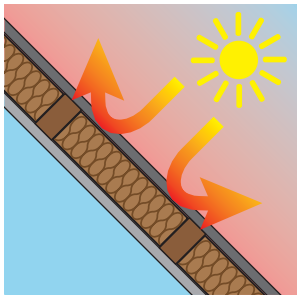
Radiation is the transmission of infra-red radiant energy from a 'hot' surface to a 'cold' surface through air or a vacuum. Radiant energy moves through space without heating anything in between – the energy is only absorbed when its path is blocked by an object which absorbs the energy and converts it to heat.

How radiation is reduced

The transmission of heat by radiation is stopped when it is absorbed into the surface of a material such as Mineral Wool, which results in a rise in temperature of the material. However that material will in turn emit radiant energy. For higher levels of resistance to radiated heat loss, "low emissivity" surfaces (e.g. metallic foil faced finish) can be added to our products.







NON-COMBUSTIBLE INSULATION FOR SAFER BUILDINGS

Reaction to Fire and Fire Resistance are two different, but very important considerations when it comes to designing a building.

Our non-combustible Mineral Wool insulation solutions offer the best performance when it comes to both Reaction to Fire and Fire Resistance, enabling building designers and specifiers to develop effective and robust fire safety strategies when they design new buildings.

REACTION TO FIRE - How quickly will the fire develop?

The measurement of how a material or system will contribute to the fire development and spread, particularly in the very early stages of a fire when evacuation is crucial.

All insulation materials are given a Euroclass reaction to fire classification in accordance with BS EN 13501: *Fire Classification of construction products and building elements*, helping specifiers to understand how much 'fuel' will be added to the building as well as how a material will contribute to the development stages of a fire when evacuation is crucial.

Testing is carried out to determine the performance of materials in terms of fire behaviour, smoke production and flaming droplets, giving a range of classification possibilities as shown over the page.

Our entire range of Mineral Wool products are non-combustible.

By choosing non-combustible insulation materials, building designers and specifiers can design out the risk of fire within the building fabric from the start.

FIRE RESISTANCE - How long can the construction withstand the fire?

The measurement of the ability of a material or system to resist, and ideally prevent, the passage of fire from one distinct area to another.

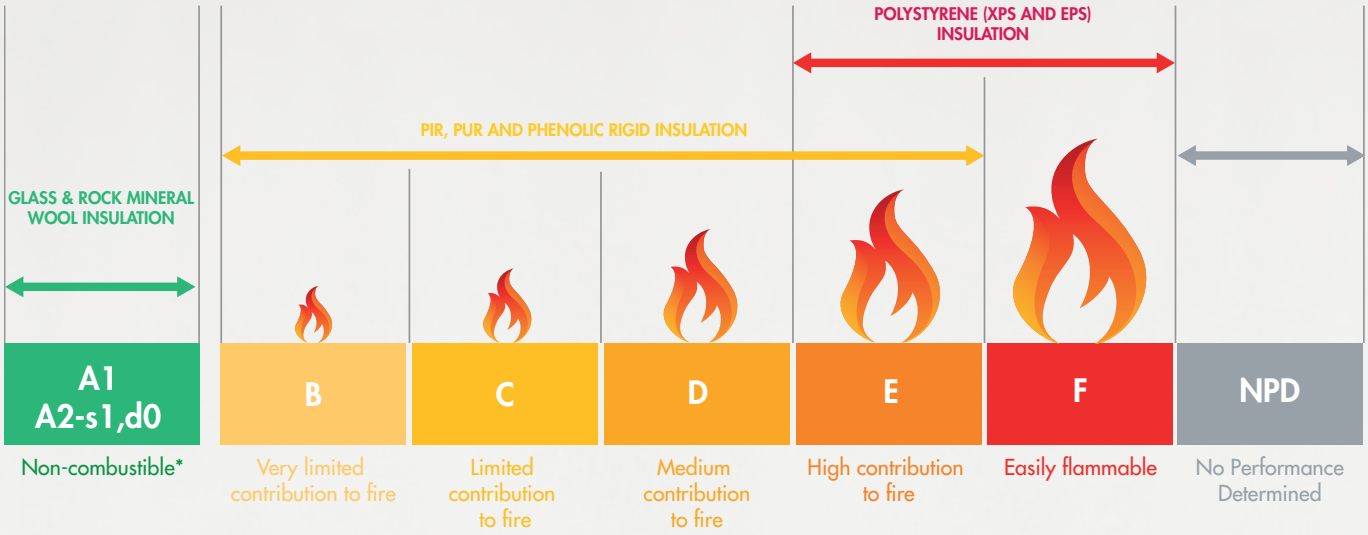
Building regulations require certain elements such as partitions, separating walls, ceilings and beam and column constructions to provide specified amounts of fire resistance.

Fire protection classifications are normally reported in terms of a period of fire resistance, for example 30, 60 or 90 minutes. These classifications relate to what is known as the integrity (E), thermal insulation (I) and load-bearing capacity (R) of building elements. Simply, this means how elements — either in combination or individually — stop a fire spreading, how they restrict temperature rise and how the elements' load-bearing capacity is maintained.

A range of our solutions have been tested for use in a variety of fire-resistant applications, providing fire resistance periods ranging from 30 to 240 minutes to assist the design of safe buildings.

Our non-combustible fire-resistant solutions help inhibit fire spread, maintain structural integrity and limit the spread of fire and smoke from one area to another, providing safe buildings for occupants, and added peace of mind for specifiers.

TYPICAL INSULATION PRODUCT EUROCLASS REACTION TO FIRE CLASSIFICATIONS



*Approved Document B for Wales defines A2-s1,d0 as limited combustibility
Notes: Other classifications of smoke and flaming droplets within A2 are classed as limited combustibility. (Not shown here as no insulant falls in that category).
Flames are illustrative only.
NPD = No Performance Determined. In this instance no performance is declared and information regarding reaction to fire performance is unknown.

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ACOUSTIC INSULATION FOR QUIETER AND HEALTHIER BUILDINGS

Our Glass and Rock Mineral Wool solutions achieve the highest standards for sound absorption, so whatever your application, there's a Knauf Insulation product for it.

Noise pollution costs Europe €24Bn per year in lost productivity, health costs and impaired learning [1]. That's why we need better buildings designed with acoustics in mind.

But there's a strong case to go beyond minimum regulatory levels.

Our Mineral Wool insulation solutions are excellent at absorbing sound, creating homes, offices, schools and hospitals that are quieter, healthier and more productive.

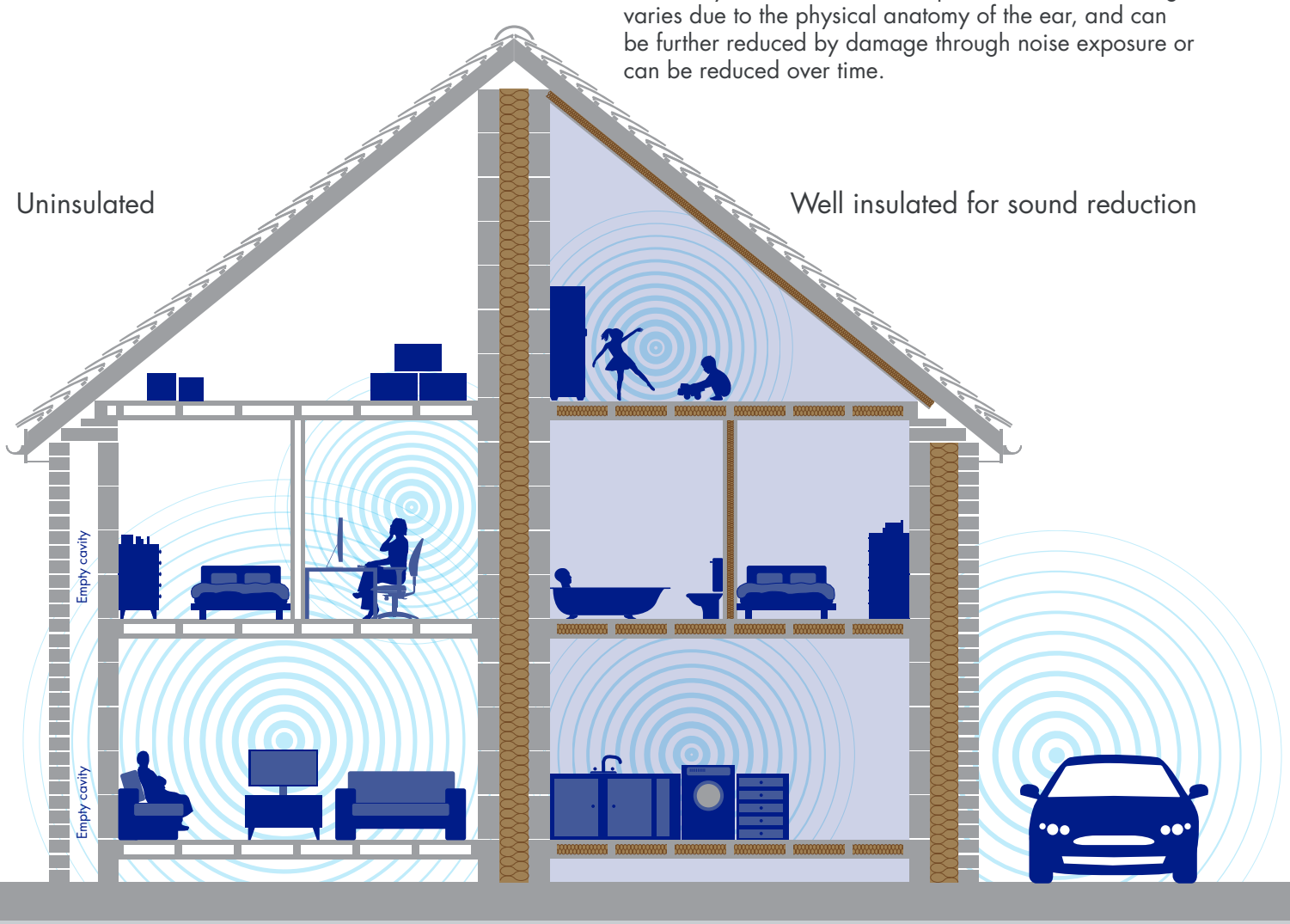
[1] https://blog.ted.com/9-ways-that-sound-affects-our-health-wellbeing-and-productivity/

WHY REDUCING NOISE IS IMPORTANT

Sound can affect us in a variety of ways. In our everyday lives, we value those things that protect our health in noisy workplaces, promote the amenity values of our homes and outdoor spaces, and maintain our privacy in offices and consulting rooms. These and many other aspects of our lives rely on the appropriate consideration of how noise is controlled, in our ever-busier world.

THE BASICS OF ACOUSTICS

The term 'acoustics' encompasses the combination of complex factors which affect the generation, propagation and perception of sound in the environment. Sound is a sensation detected by the ear as a result of pressure variations set up in the air by a vibrating source. Our ability to detect a sound varies depending on its frequency composition, with a young and healthy human ear being able to detect sounds between the frequencies of approximately 20 Hz and 20 kHz. Our ability to accurately detect individual frequencies within that range varies due to the physical anatomy of the ear, and can be further reduced by damage through noise exposure or can be reduced over time.



THE DIFFERENCE BETWEEN SOUND INSULATION AND SOUND ABSORPTION

Sound insulation is the ability of a material to prevent the transmission of sound energy through it. The sound insulation performance of a construction element is critical when considering the ingress of noise from outside to inside via the building envelope or from one room to another through an internal or separating wall or floor. Typically, the higher the mass of a material, the better its sound insulation properties.

Sound absorption describes the ability of a material to prevent sound energy from reflecting from its surface. Sound energy is absorbed by a material by converting to heat energy; generally speaking, materials that are 'soft' are better sound absorbers than materials that are rigid and 'hard'. Sound absorbing materials are often used to treat walls or ceilings to prevent unwanted echoes (reverberation) within large spaces.

USING ABSORPTION FOR NOISE REDUCTION

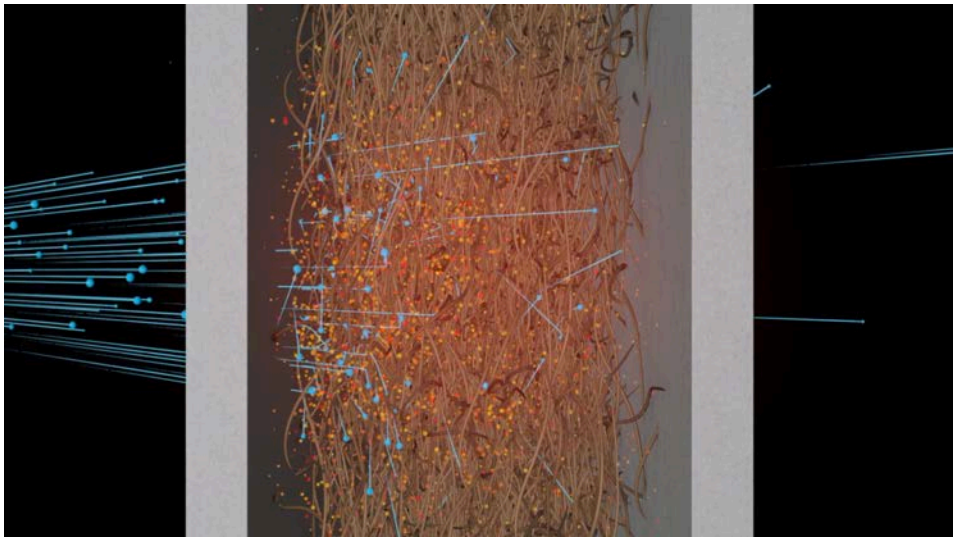
Glass and Rock Mineral Wool insulation products have excellent acoustic absorption performance. The use of these materials in carefully specified constructions with good detailing can contribute significantly towards the requirements stipulated in building regulations.

The presence of a sound absorbing material such as Mineral Wool within the cavity can improve the overall sound insulation rating of a double leaf partition by as much as 10 dB compared with an empty cavity.

INTRODUCING SEPARATION FOR ENHANCED PERFORMANCE

Introducing separation in combination with absorption can achieve much larger improvements in sound insulation. Leaves must be independent i.e. there should be no physical connections between the two leaves of the construction.

When introducing separation, a cavity of at least 50mm wide prevents 'mass-air-mass resonance', whereby the air between the two leaves acts as a spring and transmits sound energy at a specific frequency through the partition. This resonant frequency is dependent upon the mass of the leaves and the cavity depth. The cavity should also contain a sound absorbing material to prevent the build-up of reverberant sound.



INSULATION FOR MAINTAINING A COMFORTABLE ENVIRONMENT

Indoor air quality is moving up the agenda and VOCs are in the spotlight.

WHAT ARE VOCS?

Volatile Organic Compounds (VOCs) are chemicals that evaporate at room temperature, becoming vapours or gases.

Common sources of VOCs include domestic cleaning products, furnishings, office printers and building materials e.g. paint, insulation etc. Many different chemicals are classed as VOCs, but one of the most common in building materials is formaldehyde, which is classed as a VVOC (Very Volatile Organic Compound).

WHY ARE VOCS IMPORTANT?

VOCs are one of the main causes of poor indoor air quality, particularly as buildings become more airtight.

VOCs and indoor air pollution can have long-term consequences on the health of installers and later the building occupiers – for example, skin and eye irritation, nausea, headaches and asthma.

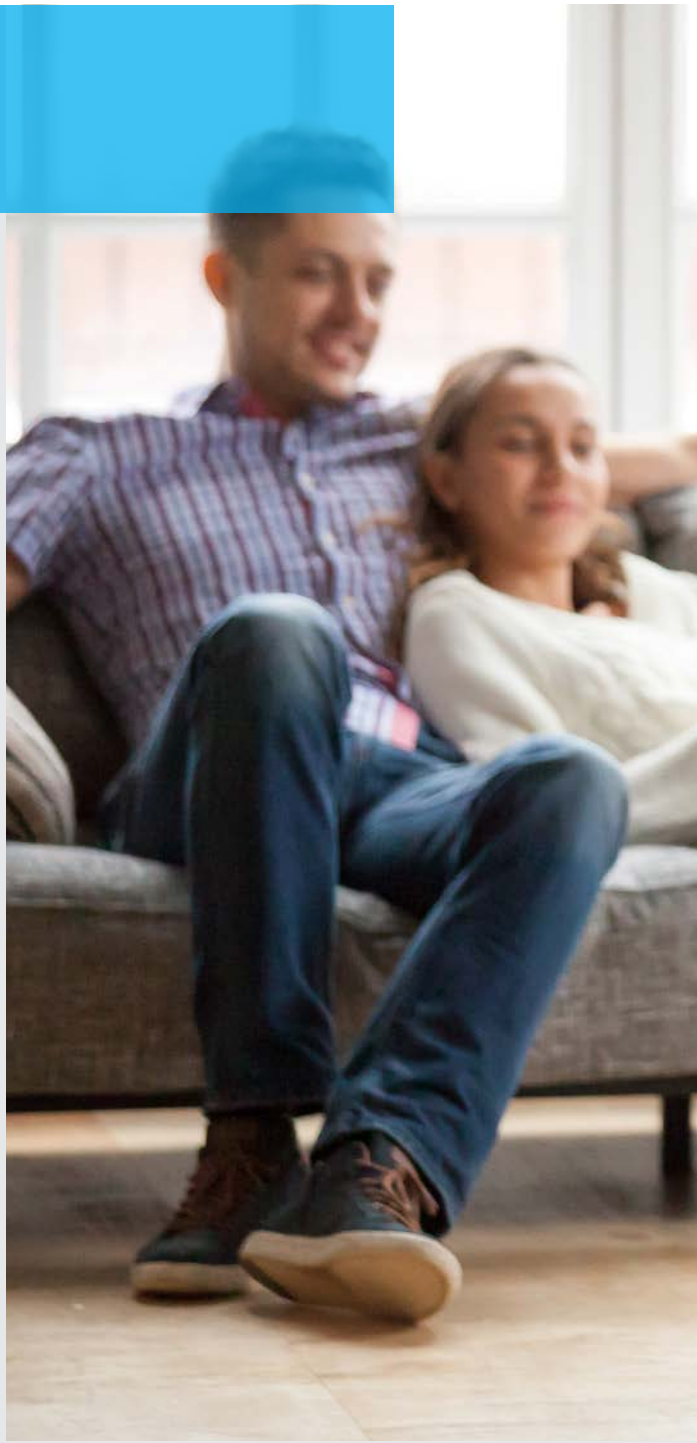
HOW TO LIMIT VOCS

The construction sector is under pressure to reduce sources of VOCs in buildings.

NICE (National Institute of Health & Care) guidelines recommend architects, builders, developers and landlords favour materials that only emit low levels of VOCs and formaldehyde.

The British Lung Foundation recommends using building materials with low VOC emissions.

We have already seen the impact of this on the paint industry – regulation changes have resulted in the development of low VOC paints, which are increasingly popular with consumers. This means VOC emissions are now an essential consideration in deciding which products to stock, specify and install to reduce the risk of being left behind by changing building regulations and customer demand.



HOW TO CHOOSE INSULATION WITH LOW VOCS

The best way to be sure that a product does not compromise indoor air quality is to look for independent certification by Eurofins. Products that meet the highest standards for VOC emissions are certified 'Indoor Air Comfort GOLD' by Eurofins.

All of our Blown Glass Mineral Wool products and cured Glass and Rock Mineral Wool products manufactured using ECOSE® Technology have been awarded Eurofins 'Indoor Air Comfort GOLD' certification.

HOW MINERAL WOOL HELPS CREATE COMFORTABLE INDOOR ENVIRONMENTS

When installed correctly, our Mineral Wool insulation solutions help maintain stable inside temperatures by slowing heat transfer, keeping buildings warm when it's cold outside, and cool when it's warm. By preventing air leaks, uncontrolled condensation and possible mould spores, mildew or microbial organic compounds, a well-insulated, airtight building can help maintain a healthy environment.

WE ARE THE BEST CHOICE WHEN IT COMES TO INSULATION

CURED GLASS MINERAL WOOL

There is a broad spectrum of insulation materials available on the market, with an equally broad variance in form, performance, sustainability, cost-effectiveness and availability.

All our Mineral Wool products meet the highest specifications and have demonstrated excellent rounded performance in the most demanding projects, including those built to the Passivhaus standard.

EUCEB - an independent certification authority that guarantees our Mineral Wool products are made of certified bio-soluble fibres. This applies globally.

Glass Mineral Wool

Our high performance Glass Mineral Wool insulation solutions contain up to 80% high quality recycled content, to which sand, limestone and soda ash is added before being melted in a furnace. The molten glass is spun to form millions of fine strands of Wool.

To manufacture our Cured Glass Mineral Wool, we use our unique bio-based binder, ECOSE® Technology, to bind the Mineral Wool together to form a mat of material which is then cured in order to form the final product. The density of the product determines whether the insulation is a lightweight quilt supplied in rolls, a flexible slab or a rigid slab, and its thermal insulation value.

Rock Mineral Wool

Our Rock Mineral Wool insulation solutions are mainly made from volcanic rock, typically basalt and/or dolomite.
An increasing proportion is now recycled material from slag, a waste product from blast furnaces. The raw materials are melted and then spun into fine strands of Wool. A binder is used to bind the Wool together to form a mat of insulation, which is then cut into slabs or wired mattresses. Most of our Rock Mineral Wool products use our ECOSE® Technology.

See our process at www.knaufinsulation.co.za/videos

Industry-leading Compression Packaging

Our industry-leading compression packaging technology (up to 10:1 ratio across our Glass Mineral Wool products) allows for more product per pack, therefore less packaging used, less trucks on the roads and reduced transport related carbon emissions. All of which contributes to a low lifecycle impact. It also means our customers require less storage space, and less carrying and handling when compared to other products. As part of our continuous improvement process, we continually strive for further developments in our manufacturing and supply chain operations to enhance quality and minimise our impact on the environment.

RAL – a German quality mark confirming Knauf Insulation's Rock Mineral Wool products (including those made in the UK) are made of certified bio-soluble fibres and can be safely used for thermal & acoustic purposes.

RAL GÜTEZEICHEN Erzeugnisse aus MINERALWOLLE

		Glass Mineral Wool	Rock Mineral Wool
Features	Naturally non-combustible	✔	✔
	Compression packed to limit transport & warehouse requirements	✔	
	Strand type	Long strands giving high levels of tear strength	Short strands giving high levels of compressive strength
	Available in slabs	✔	✔
	Available in rolls	✔	
	Available in wired mattresses		✔
	Available with a variety of facings	✔	✔
Applications	Residential buildings	✔	✔
	Commercial buildings	✔	✔
	New build	✔	✔
	Refurbishment	✔	✔
	Fire protection		✔

Krimpact® Technology

A number of our Rock Mineral Wool products are manufactured using Krimpact® Technology which gives our products consistent density throughout, combined with superior impact and compression resistance. Krimpact® Technology aligns fibres in the Mineral Wool in such a way as to dramatically increase compressive strength and its ability to resist heavy loads.

A RANGE OF HIGH PERFORMANCE PRODUCTS FOR ALL APPLICATIONS

Built-up Metal Walls
FactoryClad Rolls
See page 44

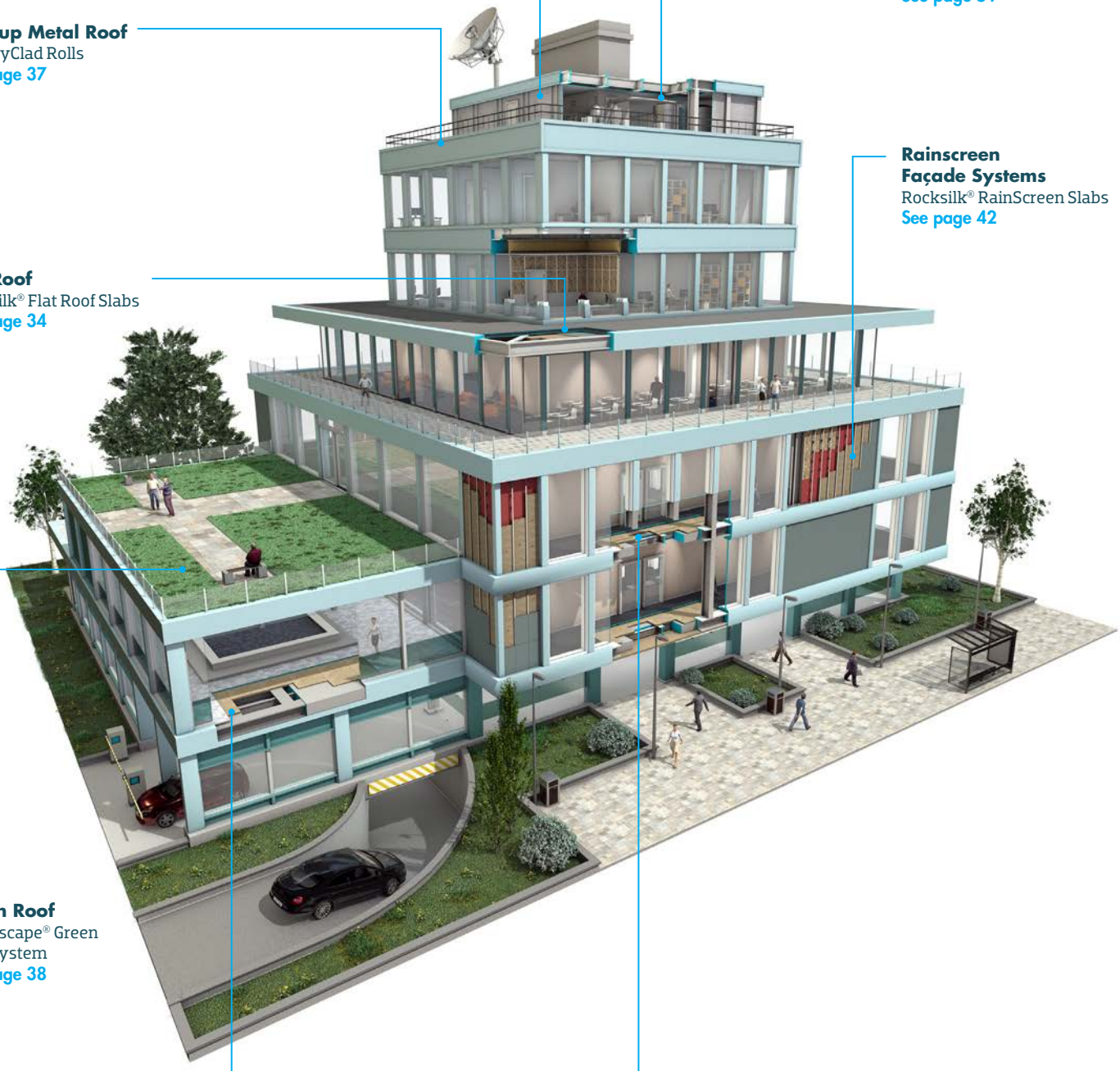
Built-up Metal Roof
FactoryClad Rolls
See page 37

Flat Roof
Rocksilk® Flat Roof Slabs
See page 34

Green Roof
Urbanscape® Green Roof System
See page 38

Fire Protection (ducts)
Fire-teK BD 917
See page 51

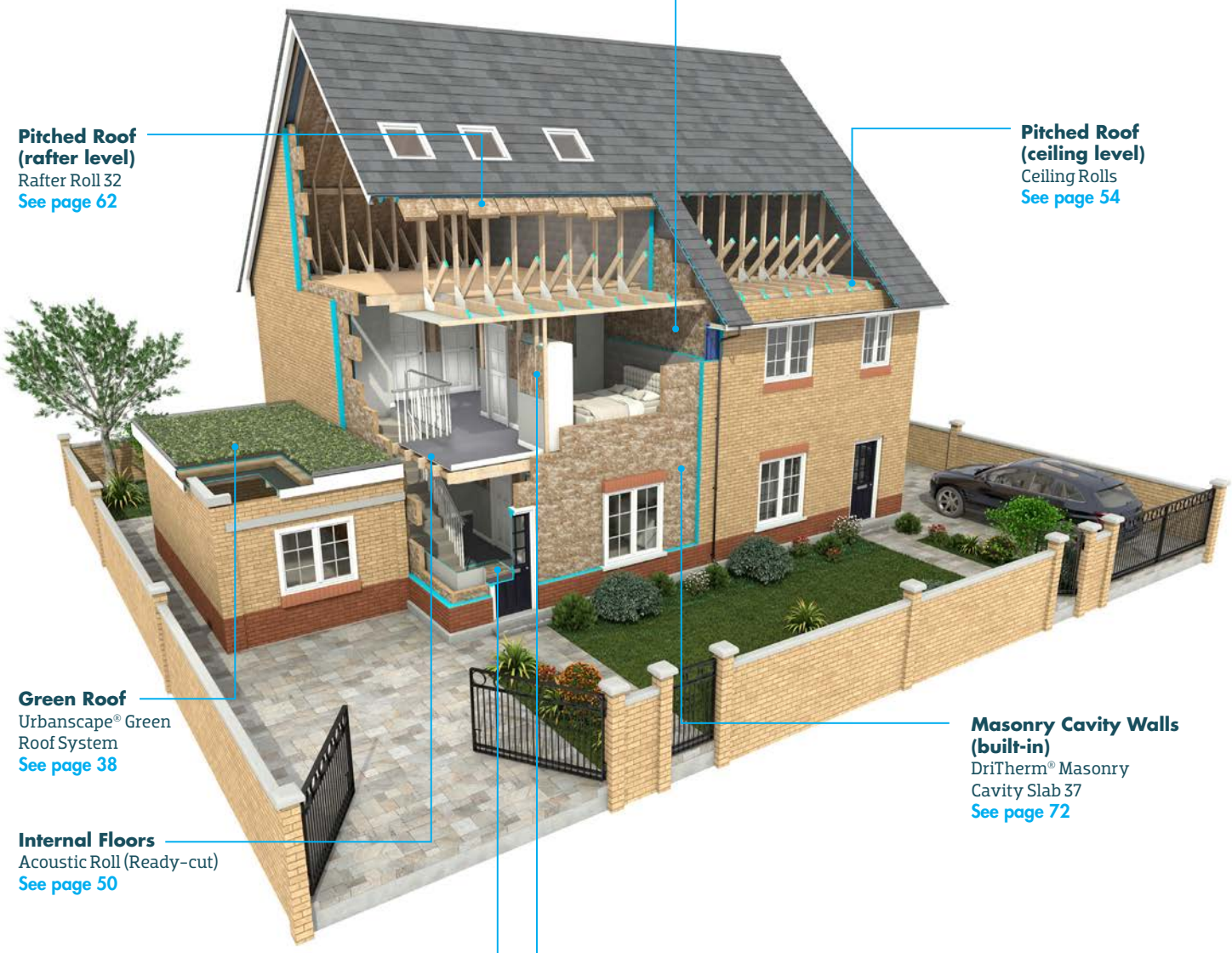
Rainscreen Façade Systems
Rocksilk® RainScreen Slabs
See page 42



Separating Floors (concrete)
Rocksilk® Acoustic Floor Slabs
See page 49

*Not pictured

Separating (Party) Walls (built-in)
Masonry Party Wall Slab
See page 45



Pitched Roof (rafter level)
Rafter Roll 32
See page 62

Pitched Roof (ceiling level)
Ceiling Rolls
See page 54

Green Roof
Urbanscape® Green Roof System
See page 38

Masonry Cavity Walls (built-in)
DriTherm® Masonry Cavity Slab 37
See page 72

Internal Floors
Acoustic Roll (Ready-cut)
See page 50

Suspended Timber Ground Floors
OmniFit® Slab 35
See page 48

Internal Walls
Acoustic Roll (Ready-cut)
See page 46

External Wall Insulation*
Rocksilk® EWI Slabs
See page 43

*Not pictured

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THERMAL INSULATION PRODUCTS & SYSTEMS ASSOCIATION SA
A division of the Southern African Energy Efficiency Confederation

INSULATION R-VALUES.....R YOU DOING IT RIGHT?

In construction, R-value is the measurement of a material's capacity to resist heat flow from one side to the other. In simple terms, R-value measures the effectiveness of insulation and a higher number represents more effective insulation.

In order to determine the R-value, the thermal conductivity of the material must be measured in a laboratory – the "k-value" is then determined. The k-value or thermal conductivity is the time rate of steady state heat flow through a unit area of homogeneous material induced by a unit temperature gradient in a direction perpendicular to that area, W/m.K. As the mean temperature increases, the thermal conductivity will increase.

Therefore the R-value of thermal insulation depends on the type of material, its thickness and its operating temperature.

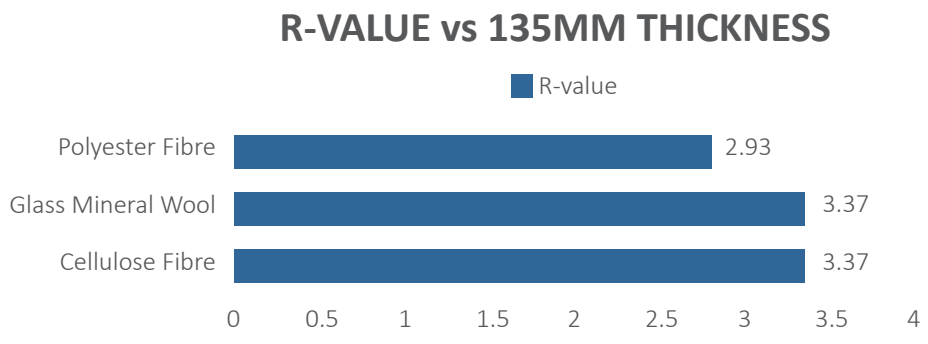
MISCONCEPTIONS – "ONE SIZE FITS ALL"

The highest total thermal resistance for a roof assembly in order to comply with SANS 10400-XA Energy usage in buildings is 3.7 m^2K/W. The minimum added R-value for thermal insulation in this roof assembly is 3.37 m^2K/W.

The following table and chart represent typical values and are provided for general comparison.

Typical R-value & Thicknesses

Generic Insulation Type	Density (Kg/m^3)	Typical Thermal Conductivity k-value (W/K.m)	Typical Thermal Resistance R-Value (m^2K/W)						
			40mm	50mm	75mm	100mm	135mm	150mm	200mm
Polyester Fibre	11.5	0.046	0.86	1.08	1.63	2.17	2.93	3.26	4.34
Glass Mineral Wool	11	0.040	1.00	1.25	1.87	2.50	3.37	3.37	5.00
Cellulose Fibre	27.5	0.040	1.00	1.25	1.87	2.50	3.37	3.37	5.00



The heat flow through a building construction depends on the temperature difference across it, the conductivity of the materials used and the thickness of the materials. The temperature difference is an external factor. The thickness and the conductivity are properties of the material. A greater thickness means less heat flow and so does a lower conductivity. Together these parameters form the thermal resistance of the construction.

The thermal resistance is proportional to the thickness of a layer of the construction and inversely proportional to its conductivity. However, when a fibre blanket is compressed its values are compromised irrespective of what type of fibre it is.

Ensure compliance - don't be misled.

info@tipsasa.co.za www.tipsasa.co.za

APPLICATIONS SECTION

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PITCHED ROOF

CEILING LEVEL (COLD ROOF / LOFT INSULATION)

Ceiling Roll
between and above ceiling joists

Ceiling joist

APPLICATION OVERVIEW

Our loft insulation products provide the most cost effective insulation solution with regards to the ratio of cost-to-energy-saved as insulation thickness is largely unrestricted, allowing very high levels of thermal performance.

Whilst regulations in South Africa require one layer of the appropriate thickness, better performance (eg. energy saving) is achieved with two layers. To achieve this, a base layer of 100mm is installed between the joists, and the second layer is cross-laid on top of the base layer to prevent thermal bridging.

RECOMMENDED PRODUCTS

- **Ceiling Roll (Multi Pack)** (see page 54)
- **Ceiling Roll (Combi-cut)** (see page 56)
- **Ceiling Roll (Uncut)** (see page 56)
- **Ceiling Loft Roll (Combi-cut)** (see page 56)

OTHER SUITABLE PRODUCTS

- **Ultracoustic-A Roll** (see page 66)

WHY MINERAL WOOL?

- **Insulating at ceiling level with Mineral Wool provides the most cost effective solution to save energy and improve acoustic performance.**
- **Mineral Wool reduces heat gain during the day and residual heat loss at night.**

PITCHED ROOF

RAFTER LEVEL (ROOM-IN-ROOF)

APPLICATION OVERVIEW

Our insulation solution for room-in-roof maximises both space and thermal efficiency, whilst also contributing to acoustic performance.

Insulation is friction-fitted between rafters, with the option to underline the rafters with a layer of plasterboard to create a drylined living or working space.

RECOMMENDED PRODUCTS

(Between rafters)

- **Rafter Roll 32 (Uncut)** (see page 62)

OTHER SUITABLE PRODUCT

(Between rafters)

- **Ultracoustic-A Roll (Combi-cut)** (see page 66)

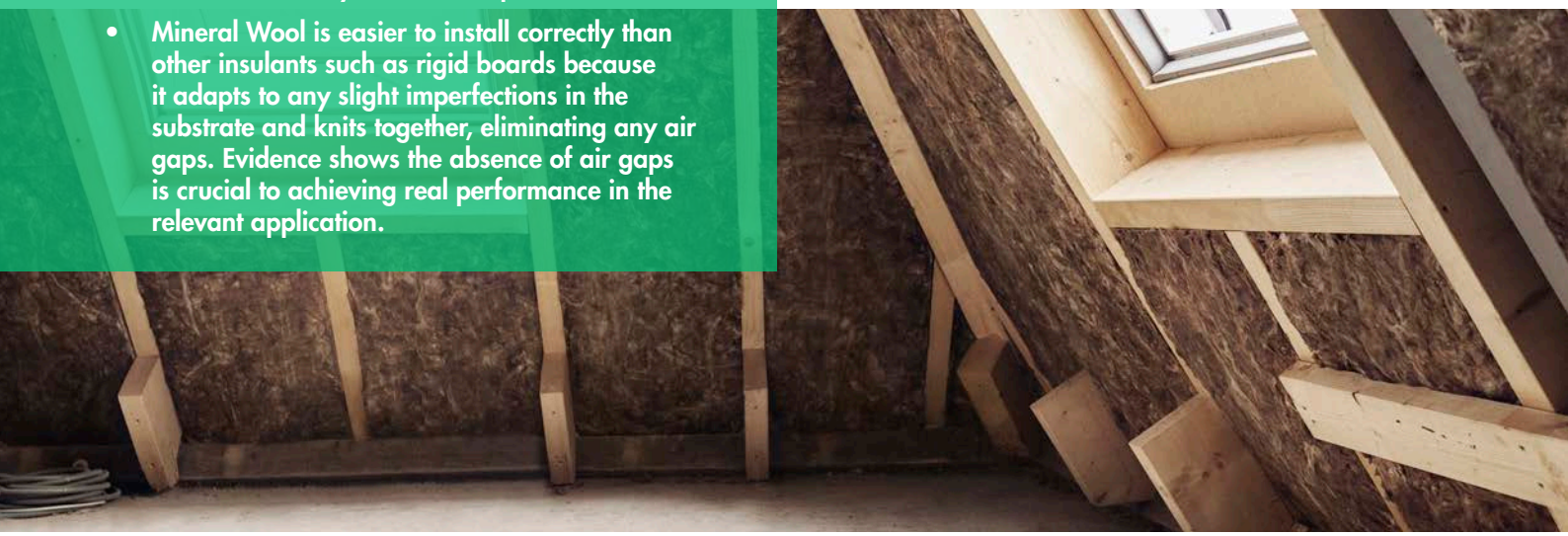
RECOMMENDED PRODUCT

(Beneath rafters)

- **Rocksilk® RS45** (see page 82)

WHY MINERAL WOOL?

- Mineral Wool provides the best combination of thermal, fire safety and acoustic performance.
- Mineral Wool is easier to install correctly than other insulants such as rigid boards because it adapts to any slight imperfections in the substrate and knits together, eliminating any air gaps. Evidence shows the absence of air gaps is crucial to achieving real performance in the relevant application.



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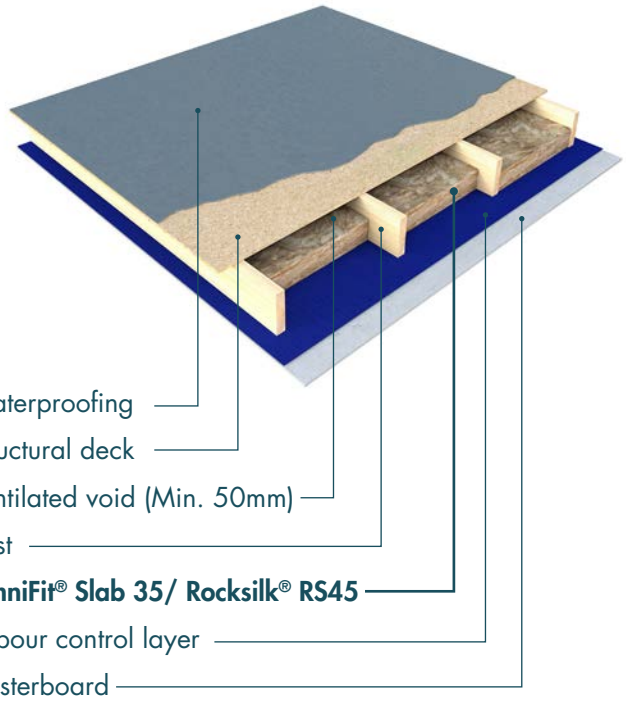
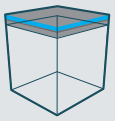
FLAT ROOF
COLD ROOF





APPLICATION OVERVIEW

Cold flat roofs consist of insulating between joists, or between and below joists to meet building regulations. A cavity should be left between the insulation and the waterproofing layer for ventilation purposes.

Often chosen for refurbishment applications, our insulation solutions for flat roof applications provide both fire and acoustic performance, in addition to high levels of thermal performance.

RECOMMENDED PRODUCTS

- **OmniFit® Slab 35** (See page 78)

OTHER SUITABLE PRODUCTS

- **Rocksilk® RS45** (See page 82)

WHY MINERAL WOOL?

- Mineral Wool provides the best combination of thermal, fire safety and acoustic performance.
- When manufactured using Knauf Insulation's Krimpact® Technology it provides high levels of compressive strength and durability. It is also non-combustible, with the best possible Euroclass A1 reaction to fire classification.

SPECIFICATIONS

TYPICAL U-VALUES

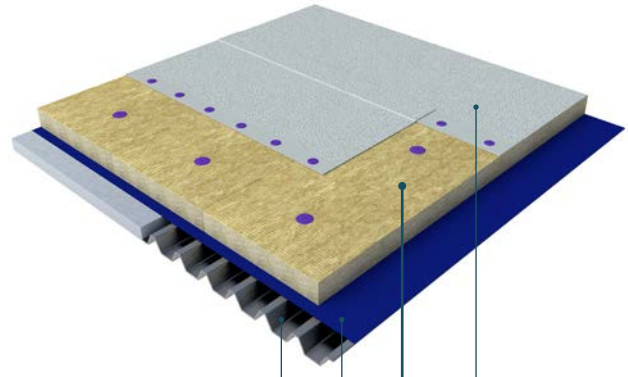
USING OMNIFIT® SLAB 35 / ROCKSILK® RS45 WITH SINGLE PLY MEMBRANE

		U-value (W/m^2K)			
		Knauf Insulated Plasterboard thickness (mm)			
Joist depth (mm)	**OmniFit® Slab 35 / Rocksilk® RS45 thickness (mm)**	**35**	**50**	**65**	**75**
250	200 (2x100)	0.16	0.15	0.13	0.13
225	175 (100+75)	0.18	0.16	0.15	0.14
200	150	0.20	0.18	0.16	0.15
175	125 (75+50)	0.23	0.20	0.18	0.16
150	100	0.27	0.23	0.20	0.18

For any U-value calculations for alternative construction build-ups, please contact our Technical Support Team on 01744 766 666 or visit our online tool at knaufinsulation.co.uk/uvalue-calculator

For written U-value calculations, please email details of your full construction build-up to technical.uk@knaufinsulation.com and we will respond accordingly to meet your requirements.

FLAT ROOF
(WARM ROOF)

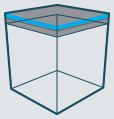


Structural deck

Vapour control layer

Rocksilk® Flat Roof Slab

Single ply waterproofing system mechanically fixed to the deck



APPLICATION OVERVIEW

Mechanically fixed, single ply build-ups consist of a system that is held in position by mechanical fasteners alone. These secure the membrane over the top of the insulation and VCL, and are fastened in place into the roof deck. Mechanically fixed single ply is suited to applications where speed of installation is key, such as schools.

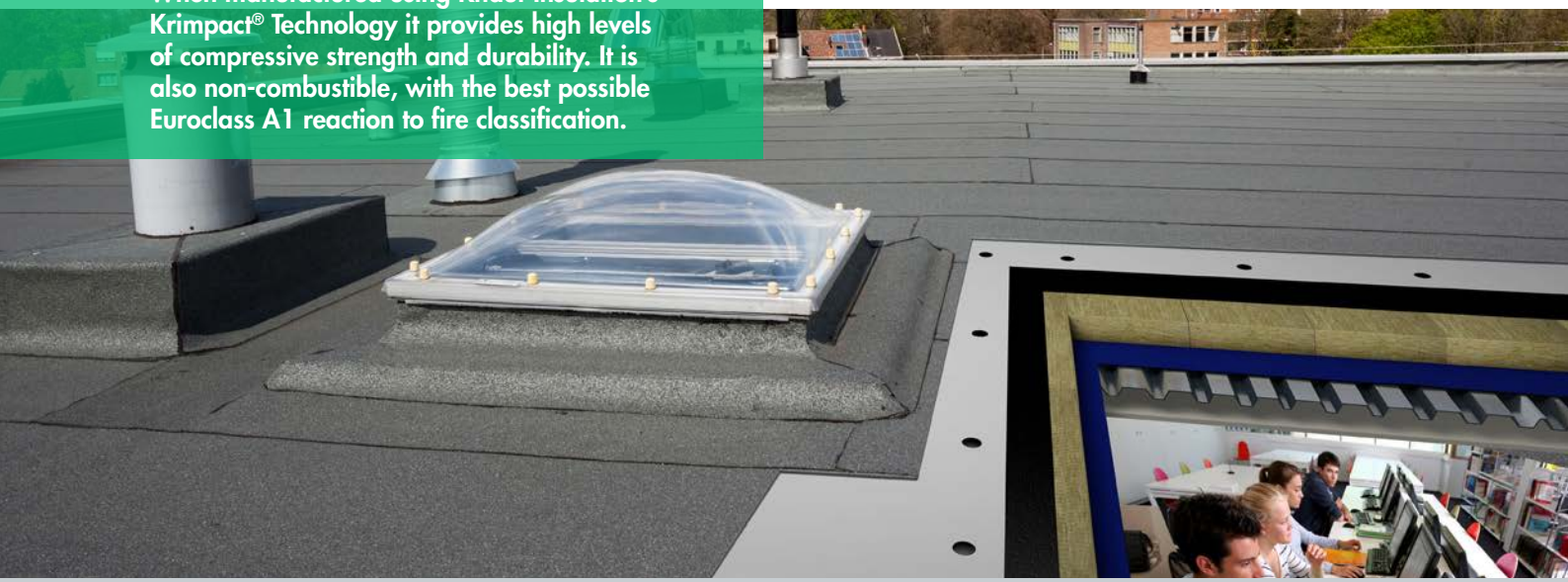
Our insulation solutions for flat roofs provide both fire and acoustic performance in addition to high levels of thermal performance.

RECOMMENDED PRODUCTS

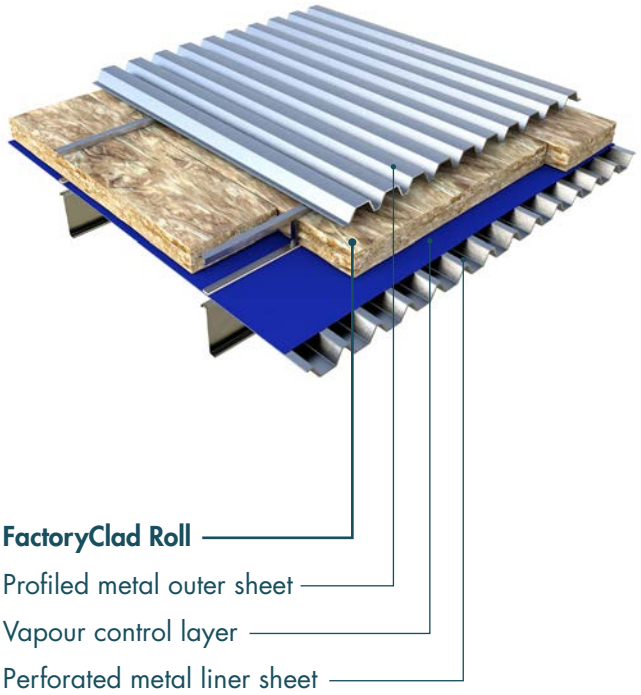
- **Rocksilk® Flat Roof Slab** (see page 86)

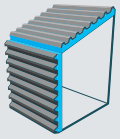
WHY MINERAL WOOL?

- **Using a non-combustible Mineral Wool insulant contributes to an effective fire safety strategy.**
- **When manufactured using Knauf Insulation's Krimpact® Technology it provides high levels of compressive strength and durability. It is also non-combustible, with the best possible Euroclass A1 reaction to fire classification.**



BUILT-UP METAL ROOF





APPLICATION OVERVIEW

Built-up metal roof systems typically consist of a low profile metal inner liner sheet, separated from an outer, higher profile metal weather sheet and are typically assembled on site.

The cavity between them is filled with a layer of insulation to provide the specified level of thermal performance. Acoustic performance is also as important.

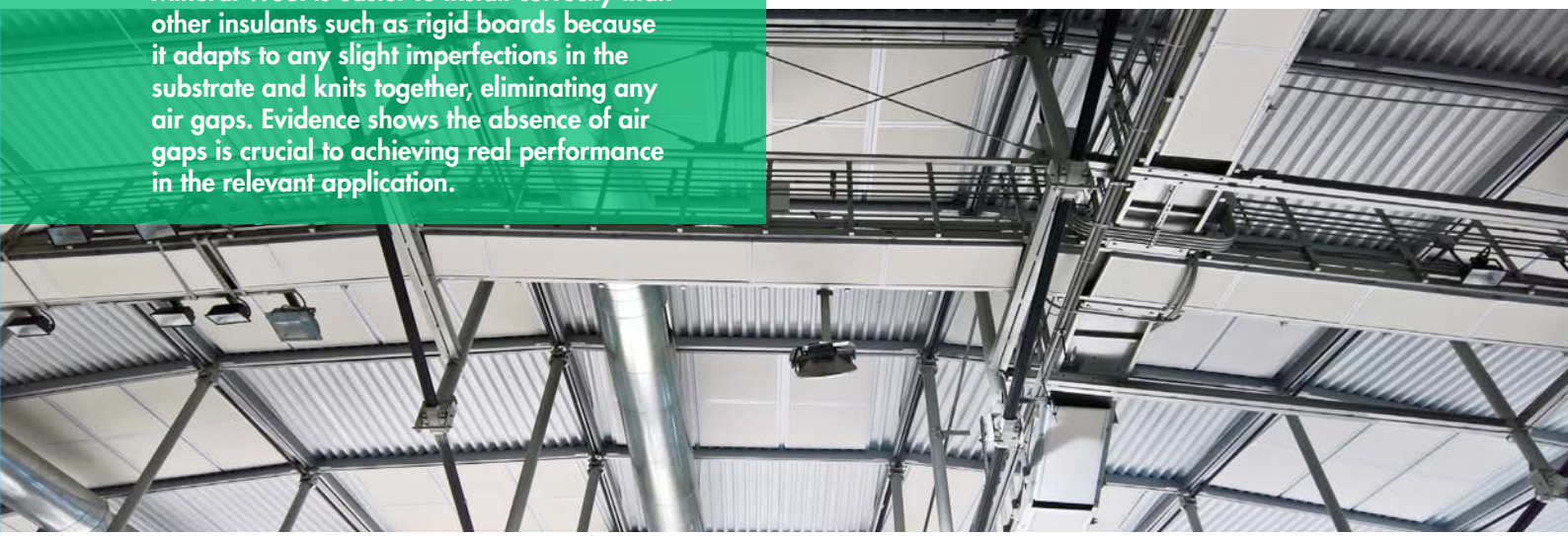
Our Mineral Wool insulation solutions for built-up metal roofs provide excellent levels of sound absorption, reducing the drumming effect of rainwater and improving the overall acoustic performance of the roof.

RECOMMENDED PRODUCTS

- **FactoryClad Roll** (see page 60)

WHY MINERAL WOOL?

- **The fibrous nature of Mineral Wool composition provides an excellent barrier to unwanted noise.**
- **Mineral Wool is easier to install correctly than other insulants such as rigid boards because it adapts to any slight imperfections in the substrate and knits together, eliminating any air gaps. Evidence shows the absence of air gaps is crucial to achieving real performance in the relevant application.**



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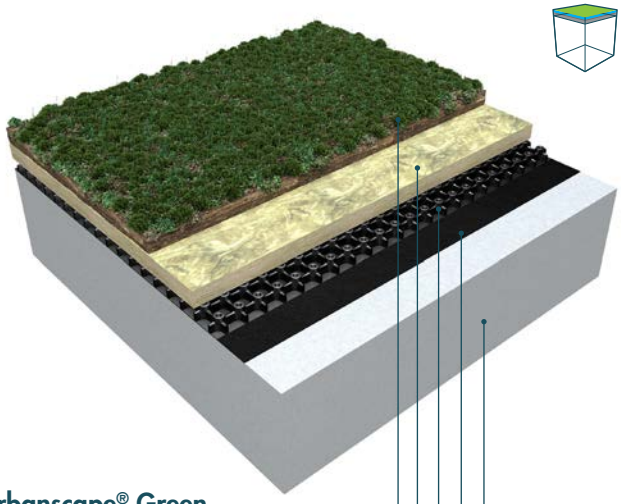
GREEN ROOF



Urbanscape® Green Roof System is made up of:

Urbanscape® Sedum-Mix Blanket

Urbanscape® Green Roll Substrate

Urbanscape® Drainage with Buffer

Urbanscape® Root Membrane

Roof Substrate

APPLICATION OVERVIEW

Our Mineral Wool green roof growing mediums help to produce innovative extensive green roofs which support sedum, moss, herbs, grasses and other vegetation where low or no maintenance is required.

Key considerations when designing green roofs include overall weight of the system to ensure it can be supported by the roof structure, in addition to water retention capability of the system to minimise stormwater runoff.

RECOMMENDED PRODUCT

- **Urbanscape® Green Roof System**

Please visit knaufinsulation.co.uk for more information on Urbanscape® Green Roof

urbanscape®

WHY MINERAL WOOL?

- **Mineral Wool substrates can be 8-10 times lighter than regular green roof substrates, meaning they can be installed onto lightweight constructions where traditional systems are otherwise not possible.**
- **Mineral Wool substrates can hold up to 3-4 times more water per its volume than other green roof substrates, allowing lower capacity drainage systems to be used.**

GREEN ROOF BENEFITS

EXTENDED ROOF LIFE

Green roofs have been shown to **triple the life expectancy of the roof**. The underlying roof materials are protected from mechanical damage, ultraviolet radiation and extreme temperatures, which results in reduced maintenance and renovation costs.

RAINWATER RETENTION

A major advantage of green roofs is the reduction of storm water run-off, which leads to **a decrease of the burden on sewer systems by 70-95% in summer**. Green roofs have influence on cost reduction due to low or no need for rain-catching cisterns and similar equipment which is usually used for storm water management.

CO_2 REDUCTION

Green roofs help to reduce the amount of CO_2 in the air, which is considered one of the most important causes of global warming. **$1m^2$ of a green roof can absorb 5 kg of CO_2 yearly**. $1m^2$ of green roof can absorb the same quantity of CO_2 as a regular car would emit during an 80km drive.

CLEANER AIR

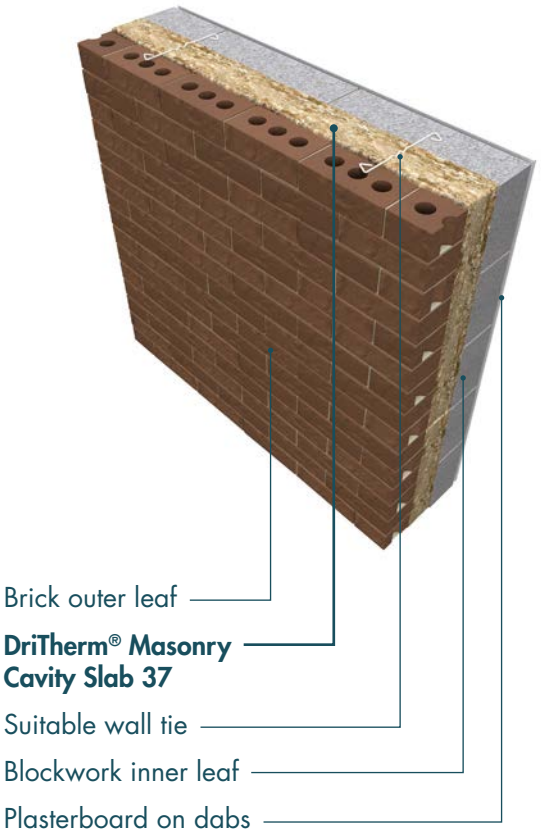
The plants on green roofs can also capture airborne particles such as smog, heavy metals and volatile organic compounds from the local atmosphere which has a positive effect on air quality and health of inhabitants. **Researchers estimate that $1m^2$ of a green roof can help to absorb 0.2kg of airborne particles from the air every year*.**

NOISE REDUCTION

A green roof system provides good sound insulation, **keeps the living space quieter** and creates more pleasant surroundings in urban areas, and it contributes to noise reduction in large cities, near industrial areas and airports.

*United States Environmental Protection Agency EPA -Reducing UHI: Compendium of Strategies

EXTERNAL MASONRY CAVITY WALLS



APPLICATION OVERVIEW

Fully filling masonry cavity walls with Mineral Wool enables the best possible R-value to save energy costs and reduce thermal gain.

This application will become increasingly important in South Africa with the SANS 10400-XA standard and the impact of EPCs (Energy Performance Certificates).

Our full-fill built-in solution is installed as the walls are built and is suitable for all types of buildings as detailed in the British Board of Agrément (BBA) Certificates.

RECOMMENDED PRODUCTS

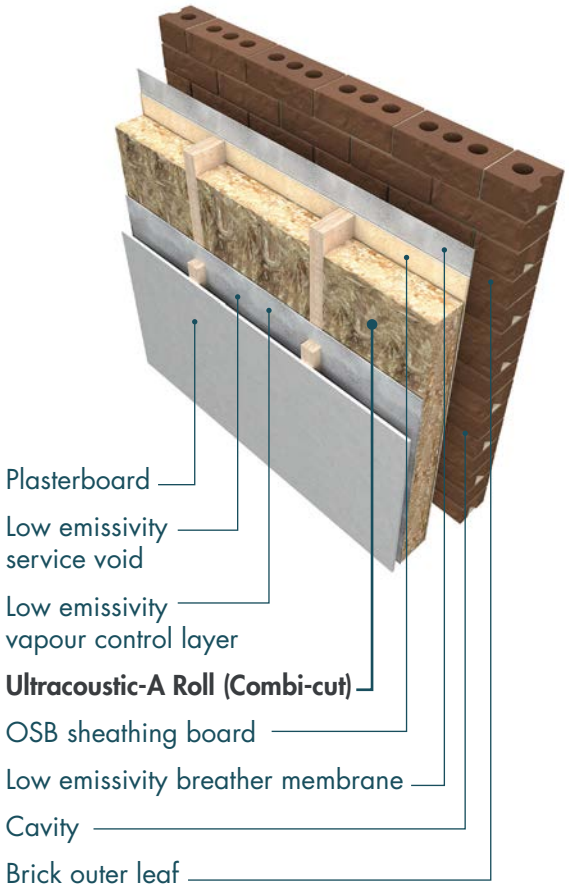
- **DriTherm® Masonry Cavity Slab 37** (see page 72)

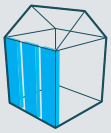
BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 95/3212

WHY MINERAL WOOL?

- **Mineral Wool slabs are sized to fit between wall ties without the need for cutting or fixings, reducing costs and increasing the building's thermal efficiency.**
- **Fully filling the cavity prevents mortar snots and other debris falling into the cavity, preventing bridges that can serve as a path for water to track from the outer to inner leaf.**

FRAMED EXTERNAL WALLS





APPLICATION OVERVIEW

Metal or timber frame walls generally provide better levels of thermal insulation performance than masonry walls of comparable thickness. However, the reduced mass of the wall means that insulation materials need to provide a higher level of acoustic performance to compensate.

Mineral Wool insulation is friction-fitted between metal or timber structural studs, with the option to install additional insulation to the internal face of the wall, and / or into the cavity to further enhance thermal performance.

RECOMMENDED PRODUCTS

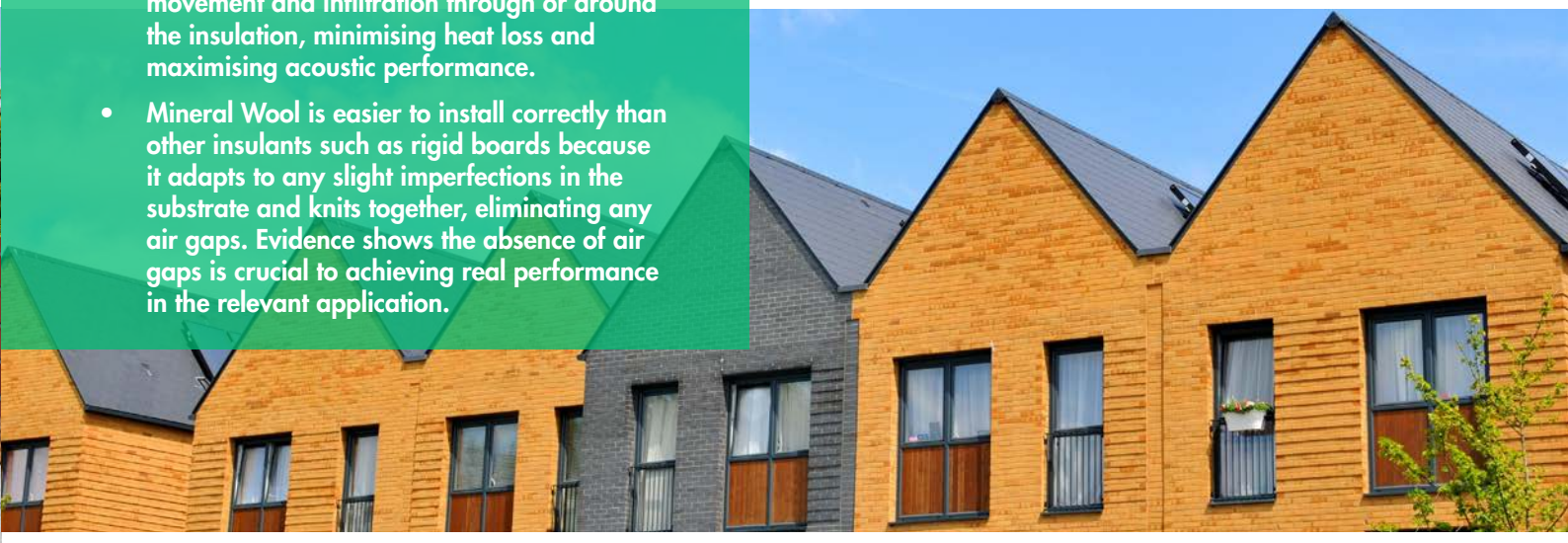
- **Ultracoustic-A Roll (Combi-cut)** (see page 66)

OTHER SUITABLE PRODUCTS

- **Acoustic Batt** (see page 68)
- **Cavity Roll (Ready-cut)** (see page 70)
- **Rocksilk® Building Slabs** (see page 82)

WHY MINERAL WOOL?

- **Mineral Wool friction-fits between metal or timber studs, closing joints and preventing air movement and infiltration through or around the insulation, minimising heat loss and maximising acoustic performance.**
- **Mineral Wool is easier to install correctly than other insulants such as rigid boards because it adapts to any slight imperfections in the substrate and knits together, eliminating any air gaps. Evidence shows the absence of air gaps is crucial to achieving real performance in the relevant application.**



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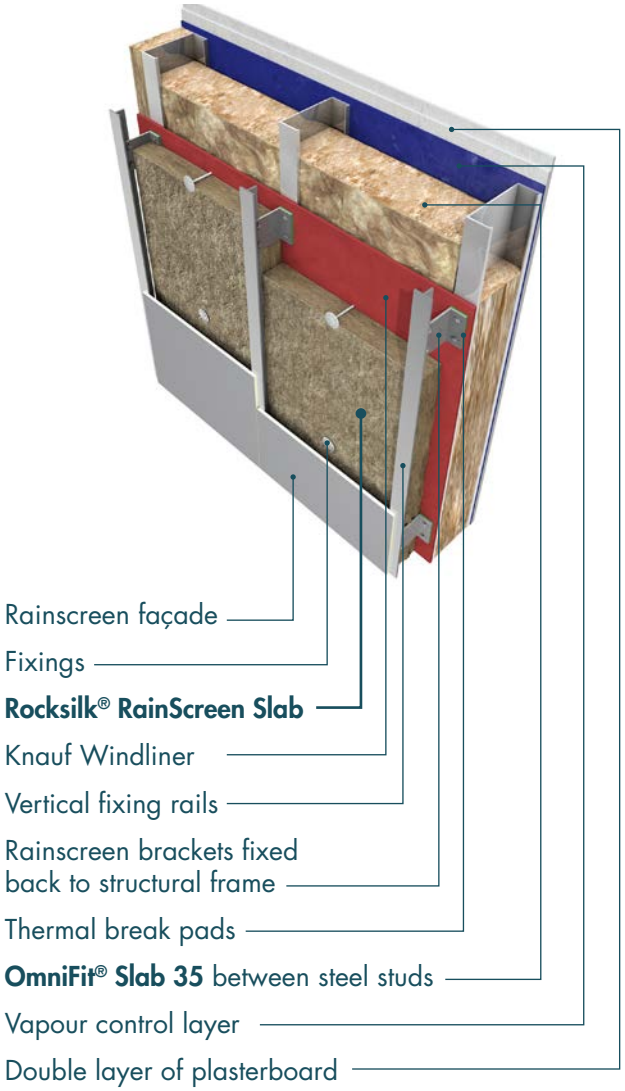
KNAUFINSULATION

VENTILATED FAÇADE SYSTEMS

WITH LIGHT STEEL FRAME CONSTRUCTION



APPLICATION OVERVIEW

Ventilated façade systems are lightweight when compared to brick and masonry solutions and can provide the designer with a wide range of aesthetic options.

In addition to thermal performance, fire performance of insulation materials is a crucial consideration, particularly when designing high-rise buildings or when the buildings will have high occupancy levels or vulnerable occupants.

Ventilated façade systems are suitable for a range of backgrounds and substrates including concrete and masonry walls in addition to steel frame constructions.

RECOMMENDED PRODUCTS

(In external rainscreen zone)

- **Rocksilk® RainScreen Slab** (see page 80)

(Between light steel frame studwork)

- **OmniFit® Slab 35** (see page 78)

OTHER SUITABLE PRODUCTS

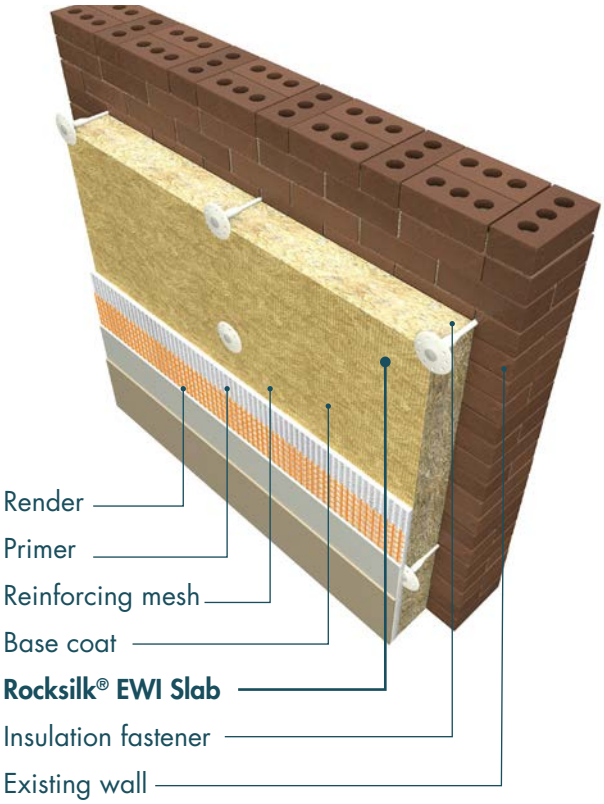
(between light steel frame studwork)

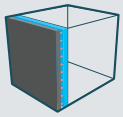
- **OmniFit® Roll 34** (see page 76)
- **Rocksilk® RS45** (see page 82)

WHY MINERAL WOOL?

- **Being non-combustible, Mineral Wool is suitable for use on all buildings including high-rise, providing compliance with fire related building regulations seen in all parts of the world.**
- **Using Mineral Wool in ventilated façades improves thermal efficiency to reduce energy costs and is most suited to a range of commercial buildings. This is important when considering the future impact of EPCs (Energy Performance Certificates).**

EXTERNAL WALL INSULATION





APPLICATION OVERVIEW

External wall insulation involves the installation of an insulating layer to the external fabric of an existing or new building and is usually finished with a render coat.

Important issues when specifying an external wall insulation solution include the level of thermal performance to be achieved, which finish is the most suitable and the reaction to fire classification of the insulation.

Our Rock Mineral Wool insulation for external wall provides thermal and acoustic performance as well as being non-combustible.

RECOMMENDED PRODUCTS

- **Rocksilk® EWI Slab** (see page 88)

WHY MINERAL WOOL?

- **Using a breathable Mineral Wool solution allows moisture vapour to pass through the construction to outside, removing the risk of condensation.**
- **Mineral Wool provides the best combination of thermal, fire safety and acoustic performance.**

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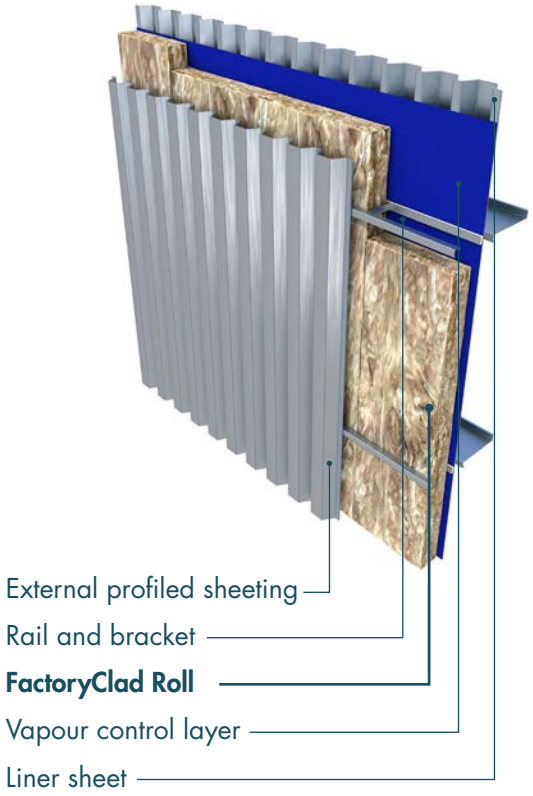
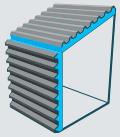
BUILT-UP METAL WALLS





APPLICATION OVERVIEW

Built-up metal wall systems typically consist of a low profile metal inner liner sheet, separated from an outer, higher profile metal weather sheet and are typically assembled on site.

The cavity between them is filled with a layer of insulation to provide the specified level of thermal performance. As well as thermal performance acoustic performance is also important.

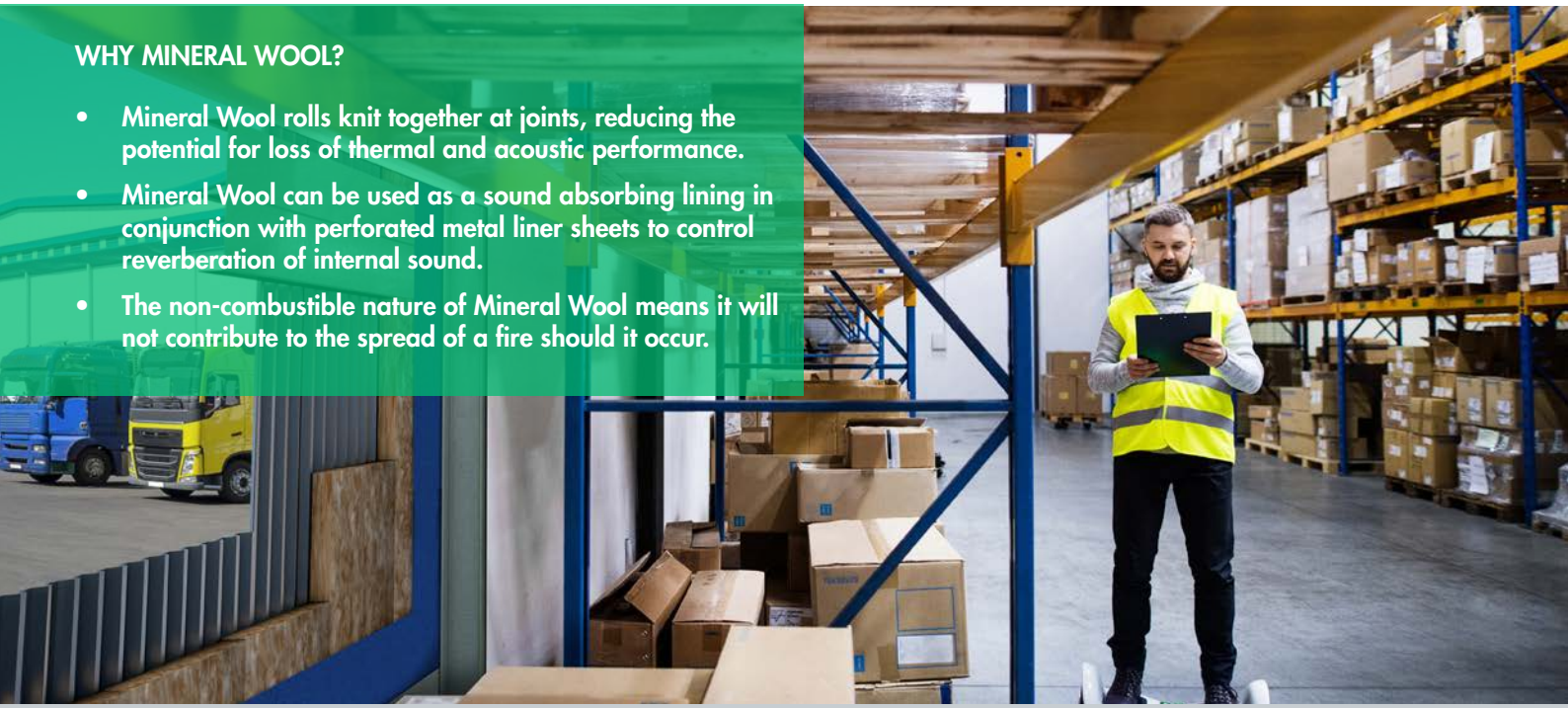
Our Mineral Wool insulation solutions for built-up metal walls provide excellent levels of sound absorption, reducing the drumming effect of rainwater on walls and improving the overall acoustic performance of the wall.

RECOMMENDED PRODUCTS

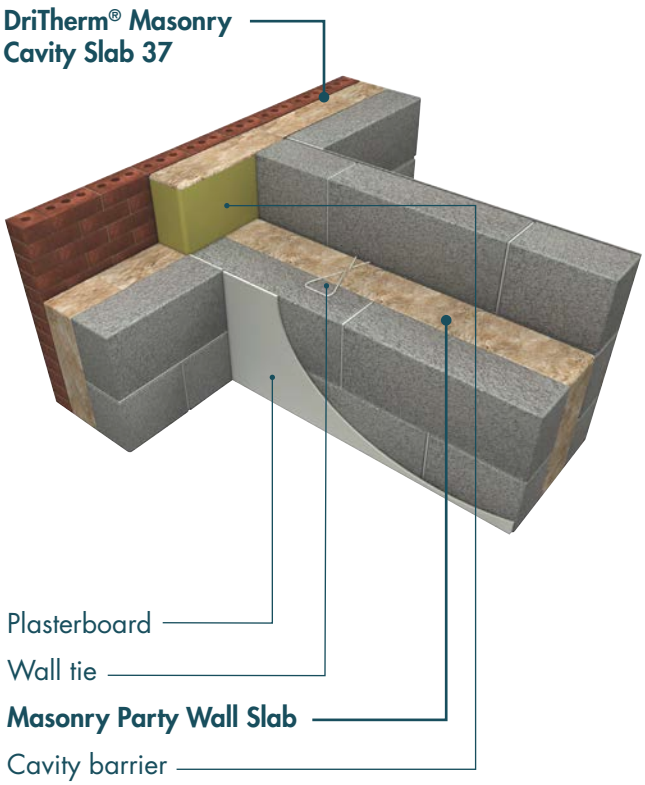
- **FactoryClad Roll** (see page 60)

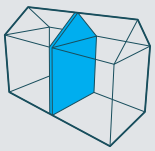
WHY MINERAL WOOL?

- **Mineral Wool rolls knit together at joints, reducing the potential for loss of thermal and acoustic performance.**
- **Mineral Wool can be used as a sound absorbing lining in conjunction with perforated metal liner sheets to control reverberation of internal sound.**
- **The non-combustible nature of Mineral Wool means it will not contribute to the spread of a fire should it occur.**



SEPARATING (PARTY) WALLS





APPLICATION OVERVIEW

Separating walls are walls between adjoining buildings eg. houses, and are also called "party" walls.

The thermal performance of a party wall can be maximised by completely filling the cavity in order to prevent the chimney effect that occurs in an uninsulated cavity.

The building designer should also consider the use of cavity barriers at the edge of the party wall cavity.

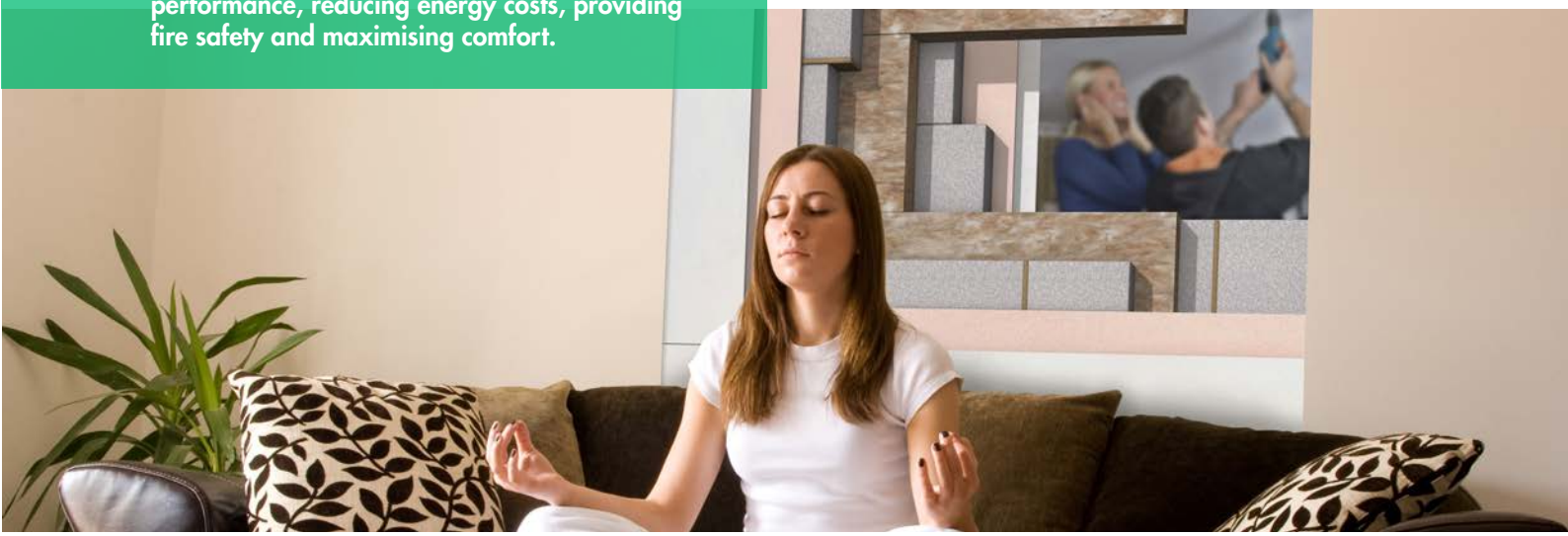
Insulated party walls using Mineral Wool significantly enhance acoustic performance, acting as a barrier to unwanted noise from neighbouring buildings.

RECOMMENDED PRODUCTS

- **Masonry Party Wall Slab** (see page 74)

WHY MINERAL WOOL?

- **Using Mineral Wool between adjoining buildings to fill the cavity is the only solution that combines thermal, acoustic and fire performance, reducing energy costs, providing fire safety and maximising comfort.**



APPLICATION OVERVIEW

Acoustic performance is the principle requirement for internal walls, with both sound insulation and sound absorption being important considerations. The sound absorption characteristics of our Mineral Wool insulation solutions make them ideal for use in internal wall build-ups. Thermal performance in internal partitions is not usually relevant.

In certain buildings there may also be specific fire performance requirements for partitions separating specific room types making our non-combustible solutions an ideal choice for this application.

RECOMMENDED PRODUCTS

- **Acoustic Roll (Ready-cut)** (see page 64)

OTHER SUITABLE PRODUCTS

- **Ultracoustic-A Roll (Combi-cut)** (see page 66)
- **Acoustic Batt** (see page 68)
- **Cavity Roll (Ready-cut)** (see page 70)
- **OmniFit® Slab 35** (see page 78)
- **Rocksilk® Building Slab** (see page 82)

WHY MINERAL WOOL?

- **Friction fitting Mineral Wool between metal or timber studs closes joints, eliminating gaps to prevent acoustic bridging and ensure high levels of sound insulation.**
- **The non-combustible nature of Mineral Wool means it will not contribute to the spread of a fire should it occur.**

SOUND INSULATION PERFORMANCE

TIMBER STUD PARTITIONS

Stud Size (mm)	Plasterboard facing	Insulation (mm)	R_w dB	Fire Resistance (Minutes)
63x38	12.5mm standard plasterboard each side	50mm Acoustic Roll / Batt	38	–
63x38	15.0mm standard plasterboard each side	63mm Acoustic Roll / Batt	40	30

METAL STUD PARTITIONS

Stud Size (mm)	Plasterboard facing	Insulation (mm)	R_w dB	Fire Resistance (Minutes)
63.5	12.5 standard plasterboard each side	63mm Acoustic Roll / Batt	40	30*
102	12.5 standard plasterboard each side	100mm Acoustic Roll / Batt	43	30*
51	2 x 12.5 standard plasterboard each side	50mm Acoustic Roll / Batt	50	60
63.5	2 x 15.0mm standard plasterboard each side	63mm Acoustic Roll / Batt	55	60
102	2 x 12.5mm standard plasterboard each side	100mm Acoustic Roll / Batt	54	60
102	2 x 12.5mm Fireshield plasterboard each side	100mm Acoustic Roll / Batt	56	90
102	2 x 15.0mm Fireshield plasterboard each side	100mm Acoustic Roll / Batt	57	120

TWIN METAL STUD PARTITIONS

Stud Size (mm)	Plasterboard facing	Insulation (mm)	R_w dB	Fire Resistance (Minutes)
63.5mm with 63mm spacing	2 x 12.5mm standard plasterboard each side	63mm Acoustic Roll / Batt	62	60
102mm with 100mm spacing	2 x 12.5mm standard plasterboard each side	100mm Acoustic Roll / Batt	64	60
63.5mm with 63mm spacing	2 x 15.0mm Fireshield plasterboard each side	63mm Acoustic Roll / Batt	65	120
102mm with 100mm spacing	2 x 12.5mm standard plasterboard each side and 19mm plank each side	100mm Acoustic Roll / Batt	74	90

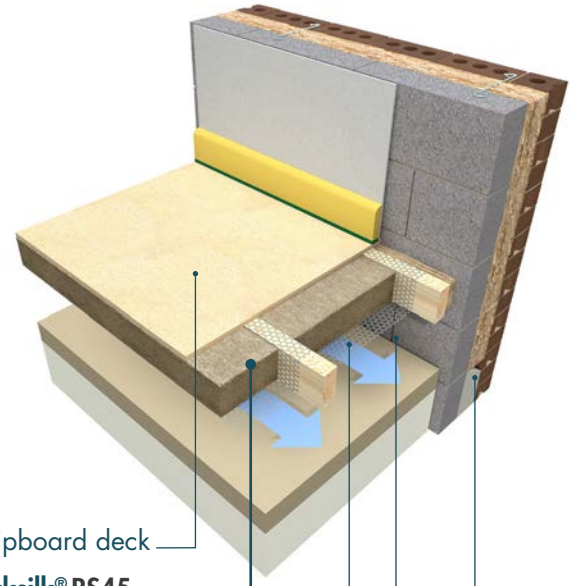
All stud centres are 600mm unless otherwise stated

Acoustic performance modelled using INSUL software (claimed uncertainty +/- 3dB)

Fire ratings are for indicative purposes only

*Tested to BS476

GROUND FLOOR



APPLICATION OVERVIEW

Insulation is placed between the joists and supported on netting (e.g. polypropylene) or timber battens.

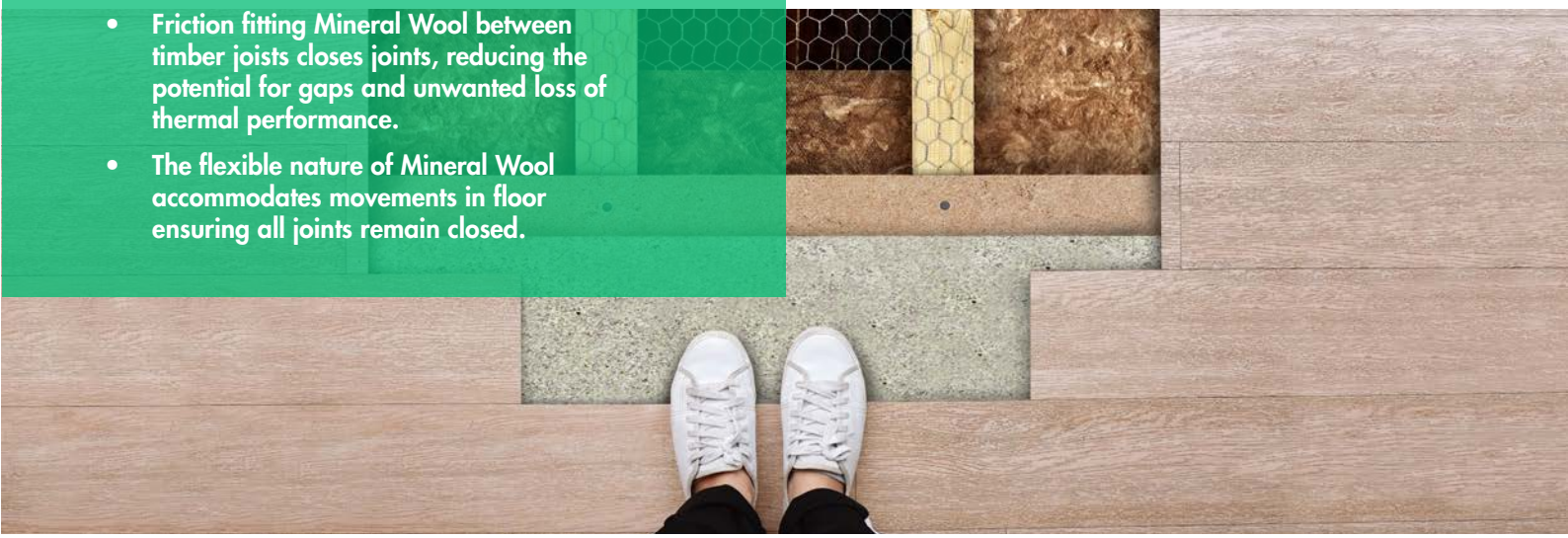
An important consideration is to ensure that the insulation product used fills all gaps between joists to prevent air movement which can lead to unwanted heat loss.

RECOMMENDED PRODUCTS

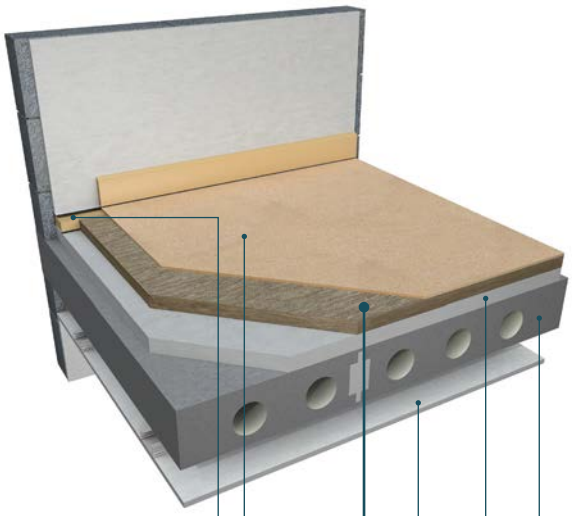
- **Rocksilk® RS45** (see page 82)

WHY MINERAL WOOL?

- **Friction fitting Mineral Wool between timber joists closes joints, reducing the potential for gaps and unwanted loss of thermal performance.**
- **The flexible nature of Mineral Wool accommodates movements in floor ensuring all joints remain closed.**



SEPARATING FLOORS
CONCRETE



Extruded polyethylene edge strip

18mm chipboard

Rocksilk® Acoustic Floor Slab

15mm plasterboard supported by Knauf C Form II Ceiling System, minimum 75mm separation

40mm (min) screed directly applied to plank cement/sand or proprietary screed nominal 80 kg/m² mass per unit area

Minimum 150mm precast concrete slab (minimum 300kg/m² mass)

APPLICATION OVERVIEW

Acoustic performance is the principle requirement in separating floors, with both sound insulation and sound absorption being important considerations.

The sound absorption characteristics of our Mineral Wool insulation solutions make them ideal for use in separating floor build-ups.

We have a wide range of solutions which comply with constructions registered in the Robust Details Handbook, providing compliance with sound related building regulations.

RECOMMENDED PRODUCTS

- **Rocksilk® Acoustic Floor Slab** (see page 84)

WHY MINERAL WOOL?

- **Mineral Wool provides a unique combination of compressive strength, acoustic performance and is non-combustible with a Euroclass A1 reaction to fire classification.**
- **Suitable for use with a range of construction techniques where the reduction of impact sound is necessary (e.g. hotels, offices, shopping malls, etc).**

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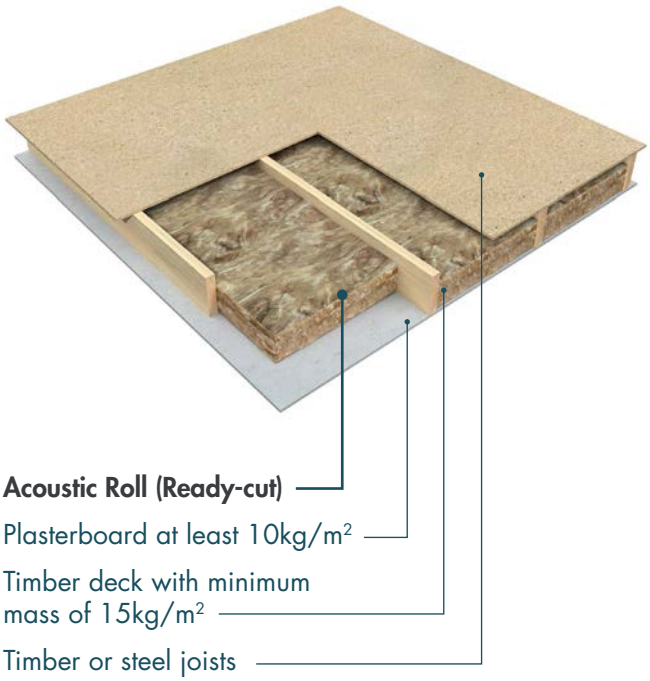


APPLICATION OVERVIEW

Acoustic performance is the principle requirement for internal floors, with both sound insulation and sound absorption being important considerations.

The sound absorption characteristics of our Mineral Wool insulation solutions make them ideal for use in internal floor build-ups.

We have a wide range of solutions which comply with sound related building regulations.

RECOMMENDED PRODUCTS

- **Acoustic Roll (Ready-cut)** (see page 64)

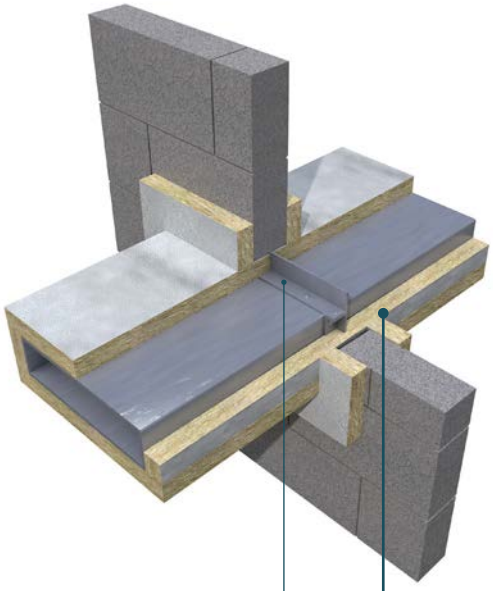
OTHER SUITABLE PRODUCTS

- **Ultracoustic-A Roll (Combi-cut)** (see page 66)
- **Acoustic Batt** (see page 68)
- **Cavity Roll (Ready-cut)** (see page 70)
- **OmniFit® Roll 40** (see page 76)
- **OmniFit® Slab 35** (see page 78)
- **Rocksilk® Building Slabs** (see page 82)
- **Rocksilk® Acoustic Floor Slab Plus** (see page 84)

WHY MINERAL WOOL?

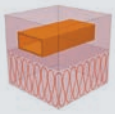
- **Absorbent Mineral Wool significantly improves sound insulation, reducing the amount of sound energy transferred from one side of the floor to the other.**
- **Our acoustic solutions are manufactured with a density in excess of 10kg/m³.**

DUCTS



Steel angle riveted at 150mm centres

Fire-teK BD 917 fixed to duct and glued to wall and insulation



APPLICATION OVERVIEW

In accordance with building regulations, when ductwork passes through any element of construction which has a designated period of fire resistance, the integrity of that compartment should be maintained.

Our Rock Mineral Wool fire protection solutions are designed to protect vertical and horizontal, rectangular and square steel ductwork associated with ventilation and/or air conditioning systems, in addition to ducted supply and extract systems (whether through ducts or plenums), mechanically assisted systems and those relying on natural convection.

RECOMMENDED PRODUCTS

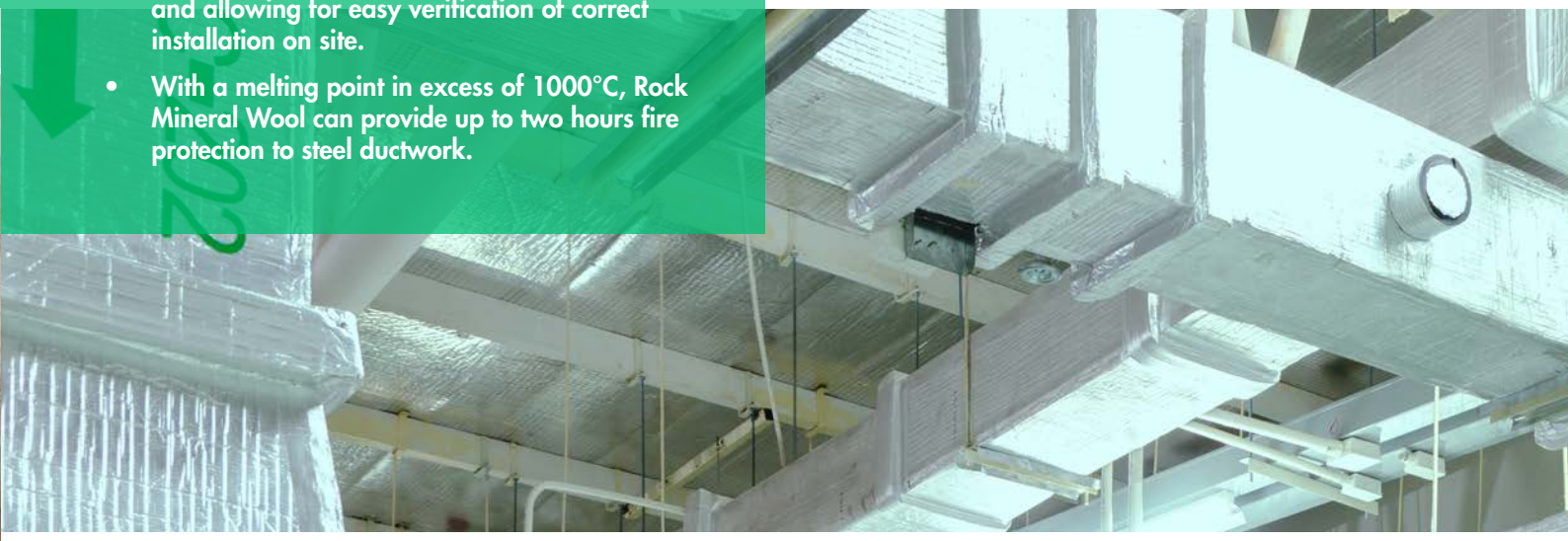
- **Fire Duct Slab (Fire-teK BD 917)** (see page 94)

OTHER SUITABLE PRODUCTS

- **Duct Roll (Thermo-teK RL Eco Alu)** (see page 90)
- **Duct Slab (Thermo-teK BD 060 Alu)** (see page 92)

WHY MINERAL WOOL?

- **Our solutions are applied in a single thickness, removing the need for multi-layer applications, providing assurance of a uniform thickness and allowing for easy verification of correct installation on site.**
- **With a melting point in excess of 1000°C, Rock Mineral Wool can provide up to two hours fire protection to steel ductwork.**



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PRODUCT FORMATS

with ECOSE® TECHNOLOGY

COMBI-CUT

A factory applied perforation along the full length of a roll which creates pre-sized widths without the need for measuring or cutting.

BENEFIT:
Without the use of tools, the user has the option to either quickly create roll widths to suit standard ceiling joist centres, whilst still in the packaging, or for installation as a full width roll.

READY-CUT

Pre-cut rolls of equal width, ready to install without the need for measuring or cutting.

BENEFIT:
Pre-cut rolls to improve installation times in applications such as partitions.

UN-CUT

No cut has been applied to these products.

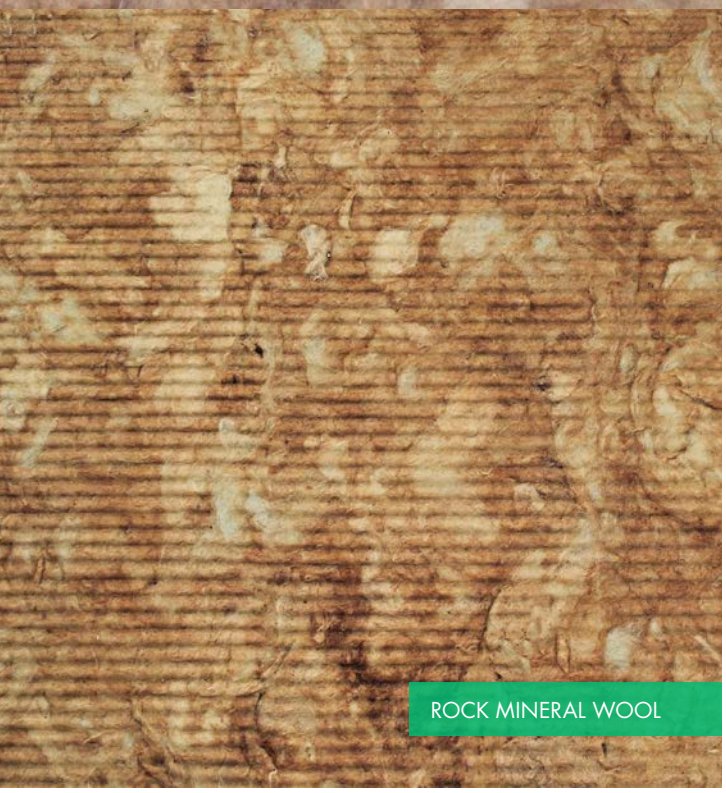
BENEFIT:
Rolls – allows the user to cut to specific widths as required at the job site or use as a full roll width.

Slabs – are usually designed to be used as a full piece of material in standard applications.

PROJECT RANGE

Products with this symbol are palletised. Whilst fully palletised, products are protected by an outer hood that provides weather and UV protection.

PRODUCT SECTION



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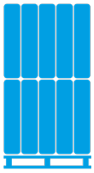
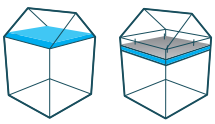
CEILING ROLL MULTI PACK
(UNCUT)

NON-COMBUSTIBLE INSULATION



with ECOSE® TECHNOLOGY



PRODUCT DESCRIPTION

Ceiling Roll Multi Pack (Uncut) is a Glass Mineral Wool roll that is non-combustible with a Euroclass A1 reaction to fire classification and is manufactured using our unique bio-based binder ECOSE® technology. Ceiling Roll Multi Pack (Uncut) provide installers with flexibility of being used as a complete 100mm deep roll or as 2 x 50mm deep rolls. Rolls can easily be cut to suit joist centres.

Our advanced compression packaging technology ensures more insulation per pack, saving on transportation, storage space and reducing the amount of handling.

BENEFITS

- Ceiling Roll (Multi pack) can be used as:
  - 100mm depth or,
  - 50mm depth
- Non-combustible Euroclass A1 reaction to fire classification
- Economical packs for less storage and handling
- Manufactured with ECOSE® Technology for improved handling and installation
- Lightweight quilt for ease of installation

APPLICATION

- Pitched Roofs – Ceiling Level (see page 32)
- Suspended Ceilings

CERTIFICATION

SPECIFICATIONS

CEILING ROLL MULTI PACK (UNCUT)

Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (m)	Width (mm)	Product Format	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code	NRC
50	1.05	1.10	27.00	1200	Uncut	32.40	24	777.60	633623	0.81
100	2.10	2.25	13.50	1200	Uncut	16.20	24	388.80		1.04

South African R-values calculated assuming 23°C mean temperature.

SANS 10177-5 A - Non combustible, SANS 10177-10 A1 - No flame spread, Euroclass A1 - reaction to fire classification to BS EN 13501Fire classification, in accordance with SANS 428:2012, for thicknesses up to 135mm is A / A1 / 1.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

FIRE ACOUSTIC SUSTAINABILITY R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

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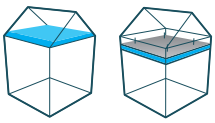
CEILING ROLLS

NON-COMBUSTIBLE INSULATION



APPLICATION

- Pitched Roofs – Ceiling Level (see page 32)
- Suspended Ceilings

PRODUCT DESCRIPTION

Ceiling Rolls (Combi-cut) are Glass Mineral Wool rolls, designed for use in cold lofts where pitched roofs are insulated at ceiling level.

Combi-cut rolls have partially cut perforations allowing ease of separation into roll widths to suit joist centres at 750mm without having to measure or use tools. 750mm joist centres are installed using 1 x 800mm or 2 x 400mm widths.

Ceiling Rolls (Uncut) are 1200mm wide offering the installer the flexibility to cut to the desired width. Installing Ceiling Rolls (Uncut) will contribute to reduced energy consumption, saving money and reducing heat gain during the day, and heat loss during the evening, providing a more comfortable living and working environment.

Our advanced compression packaging technology ensures more insulation per pack, saving on transportation, storage space and reducing the amount of handling.

BENEFITS

- Non-combustible Euroclass A1 reaction to fire classification
- Lightweight quilt for ease of installation
- Economical packs for less storage and handling
- Manufactured with ECOSE® Technology for improved handling and installation
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

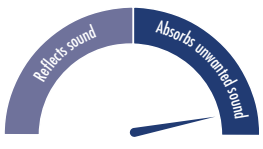
Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (m)	Width (mm)	Product Format	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code	NRC
CEILING ROLL (COMBI-CUT)										
50	1.25	1.25	19.00	1200 (800+400)	Combi-cut	22.80	24	547.20	632897	0.81
100	2.50	2.50	10.10	1200 (800+400)	Combi-cut	12.12	24	290.88	632858	1.04
135	3.38	3.35	7.50	1200 (800+400)	Combi-cut	9.00	24	216.00	632899	1.13
CEILING ROLL (UNCUT)										
50	1.25	1.25	19.00	1200	Uncut	22.80	24	547.20	617261	0.81
75	1.88	1.85	12.80	1200	Uncut	15.36	24	368.64	617263	0.93
100	2.50	2.50	10.10	1200	Uncut	12.12	24	290.88	617265	1.04
135	3.38	3.35	7.50	1200	Uncut	9.00	24	216.00	617267	1.13
CEILING LOFT ROLL (COMBI-CUT)										
100	2.19	2.25	12.18	1140 (2x570/3x380)	Combi-cut	13.89	24	333.36	2404154	1.04
100	2.40	2.50	11.25	1140 (2x570/3x380)	Combi-cut	12.83	24	307.92	2404167	1.04
150	3.29	3.40	8.05	1140 (2x570/3x380)	Combi-cut	9.18	24	220.32	2404155	1.13
150	3.89	3.75	7.53	1140 (2x570/3x380)	Combi-cut	8.53	24	204.72	2404166	1.13
200	4.38	4.50	6.00	1140 (2x570/3x380)	Combi-cut	6.84	24	164.14	715820	1.16
200	4.65	5.00	4.85	1140 (2x570/3x380)	Combi-cut	5.53	24	132.72	2404169	1.16

South African R-values calculated assuming 23°C mean temperature.

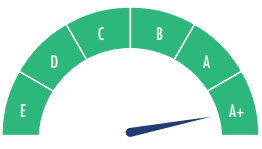
SANS 10177-5 A - Non combustible, SANS 10177-10 A1 - No flame spread, Euroclass A1 - reaction to fire classification to BS EN 13501. Fire classification, in accordance with SANS 428:2012, for thicknesses up to 135mm is A / A1 / 1.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90/90 for declaring thermal performance and following the European norm standard including audited factory production control.

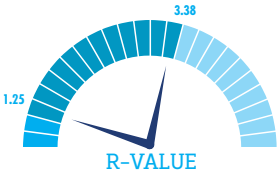
FIRE



ACOUSTIC



SUSTAINABILITY



R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

DON'T GET CA

Our market leading technology allo

27.00m Knauf Insulation Ceiling Roll Multi Pack = 32.40m²

CEILING ROLL BENEFITS BOTH

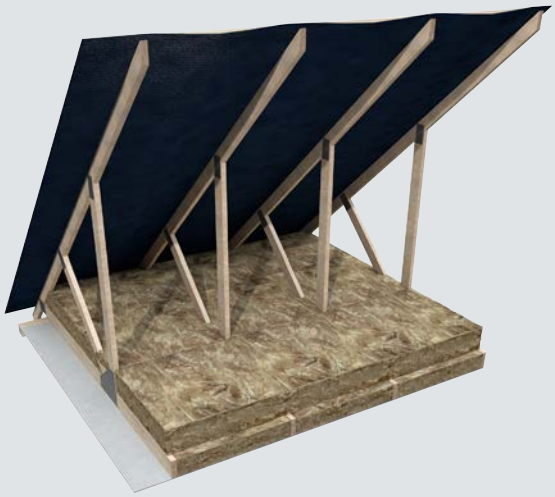
More m^2 per roll

= More m^2 per pallet
= More m^2 per volume of stocking space
= More m^2 per vehicle delivery
= **BETTER WAREHOUSE UTILISATION**

Virtually **half** the number of rolls to insulate a loft

= Less packaging
= **ENVIRONMENTAL BENEFIT**

50mm thickness used for illustrative purposes



"Customers ask for small rolls but it's the area of the loft that determines the amount of material required, not the roll size!"

- Our longer rolls means more m^2 per package, less fetching and carrying at the store, less unloading at site and less lifting into the loft so the installer can get on with the installation quicker
- Factory applied perforation cuts make it easy and quick to cut
- As much as 45% of energy is lost through the roof. So if you have air-conditioning or heating, insulating your roof is the easiest and cheapest way to really cut those energy bills
- UV protective and moisture / water resistant outer packaging film allows full pallets to be stored externally.

AUGHT SHORT

ws us to produce a much longer roll

m^2 per roll

THE STOCKIST AND END-USER

More m^2 per vehicle delivery

= Fewer journeys to site
= Less fuel used
= Less carbon emitted
= **ENVIRONMENTAL BENEFIT**

50% fewer trips up the loft for the end-user

= Saves time and increases profit
= **ADDED VALUE**

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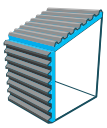
FACTORYCLAD ROLL 40

NON-COMBUSTIBLE INSULATION



APPLICATION

- Built-Up Metal Roofs (see page 37)
- Built-Up Metal Walls (see page 44)

PRODUCT DESCRIPTION

FactoryClad Rolls are Glass Mineral Wool rolls, designed for use in built-up metal roofs and walls, that offers thermal performance. They are non-combustible with the best possible Euroclass A1 reaction to fire classification, and are manufactured using Knauf Insulation's unique bio-based binder, ECOSE® Technology.

BENEFITS

- Rolls are manufactured to 1200mm widths to suit commonly used rail and bracket systems
- Advanced compression technology provides more per pack for less storage, handling and transportation
- Thermal performance
- Non-combustible Euroclass A1 reaction to fire classification
- Sound absorption characteristics
- Manufactured with ECOSE® Technology for improved handling and installation
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

PROJECT RANGE

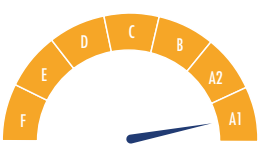
FACTORYCLAD ROLL 40

Thickness (mm)	**R-value** (m^2K/W)	**R-value** (m^2K/W)	**Length** (m)	**Width** (mm)	**Product Format**	**Area per pack** (m^2)	**Packs per pallet**	**Area per pallet** (m^2)	**Article code**
80	1.87	2.00	14.10	1200	Un-cut	16.92	24	406.08	2401997
100	2.39	2.50	11.25	1200	Un-cut	13.50	24	324.00	2401998
120	2.85	3.00	9.40	1200	Un-cut	11.28	24	270.72	2401999

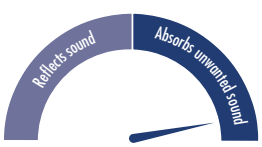
Other thicknesses, up to 220mm, are available on request.

South African R-values calculated assuming 23°C mean temperature.

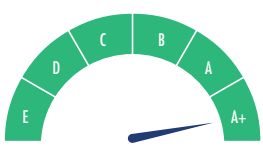
Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.



FIRE



ACOUSTIC



SUSTAINABILITY

R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

RAFTER ROLL (UNCUT)

NON-COMBUSTIBLE INSULATION

PRODUCT DESCRIPTION

Rafter Roll 32 (Uncut) is a Glass Mineral Wool roll, designed for use in warm roofs where the roof is insulated at rafter level, that offers excellent thermal performance.

It is non-combustible with the best possible Euroclass A1 reaction to fire classification, and is manufactured using Knauf Insulation's unique bio-based binder, ECOSE® Technology.

BENEFITS

- High levels of sound absorption and reduction characteristics reduce unwanted external noise such as traffic or drumming from rainfall on the roof
- Thermal performance
- Quick and easy to install
- Non-combustible Euroclass A1 reaction to fire classification
- Friction fitting allows rafter spacing to be completely filled, thus eliminating air gaps
- Long roll lengths
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

APPLICATION

- Pitched Roofs – Rafter Level (see page 33)

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

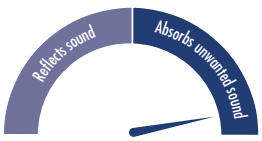
RAFTER ROLL

Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (m)	Width (mm)	Product Format	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code	NRC
75	2.24	2.30	5.25	1200	Un-cut	6.30	24	151.20	2402018	0.90
100	2.97	3.10	4.00	1200	Un-cut	4.80	24	115.20	2402020	1.00

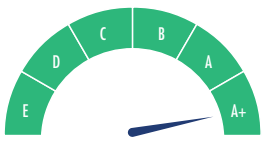
South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

FIRE



ACOUSTIC



SUSTAINABILITY

R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

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KNAUFINSULATION

ACOUSTIC ROLL (READY-CUT)

NON-COMBUSTIBLE INSULATION

APPLICATION

- Internal Walls
- Intermediate Timber Floors
- Suspended Ceilings

(see page 46)

PRODUCT DESCRIPTION

Acoustic Roll (Ready-cut) is a Glass Mineral Wool roll, designed for use in internal wall and floor applications, to offer sound absorption and noise reduction properties.

It is non-combustible with the best possible Euroclass A1 reaction to fire classification, and is manufactured using Knauf Insulation's unique bio-based binder, ECOSE® Technology.

BENEFITS

- Acoustic absorption properties
- Rolls are designed to fit between studs to close joints, reducing the potential for unwanted gaps and ensuring high levels of sound insulation
- Suitable for use in either metal or timber studs
- Non-combustible Euroclass A1 reaction to fire classification
- Ready-cut rolls allow for faster installation and avoid joints
- Long roll lengths that are ready-cut allow for quick and easy installation
- Manufactured with ECOSE® Technology for improved handling and installation
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

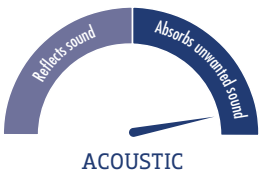
SPECIFICATIONS

ACOUSTIC ROLL (READY-CUT)

Thickness (mm)	**Length** (m)	**Width** (mm)	**Product Format**	**Area per pack** (m^2)	**Packs per pallet**	**Area per pallet** (m^2)	**Article code**	**NRC**
50	13.00	1200 (2x600)	Ready-cut	15.60	24	374.40	2400365	0.83
63	15.00	1200 (2x600)	Ready-cut	18.00	24	432.00	603550	0.89e
75	12.50	1200 (2x600)	Ready-cut	15.00	24	360.00	2438513	0.95
100	9.17	1200 (2x600)	Ready-cut	11.00	24	264.00	2438517	1.04

e = estimate

FIRE



ACOUSTIC

SUSTAINABILITY

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

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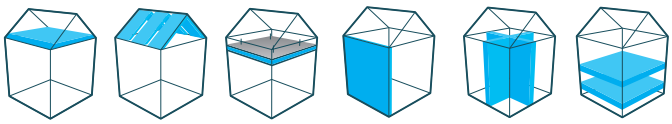
ULTRACOUSTIC-A ROLL (COMBI-CUT)

NON-COMBUSTIBLE INSULATION



PRODUCT DESCRIPTION

Ultracoustic-A Rolls (Combi-cut) offer superior acoustic performance for internal partition walls, suspended ceilings, intermediate floors and some external wall applications. Suitable for both acoustic and thermal applications, they are ideal for use in areas where heightened privacy or sound insulation is of importance, e.g. cinemas, boardrooms, or consultation chambers. Rolls are pre-cut into 2 x 600mm widths, removing the need for measuring and cutting on site for convenience and speed of installation.

BENEFITS

- Sound absorption characteristics improve the acoustic performance
- Friction fitting between studs
- Suitable for use in metal or timber studs
- Non-combustible Euroclass A1 reaction to fire classification
- Advanced compression technology provides more per pack for less storage, handling and transportation
- Manufactured with ECOSE® Technology for improved handling and installation
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

APPLICATION

- Pitched Roofs – Ceiling Level (see page 32)
- Pitched Roofs – Rafter Level (see page 33)
- Suspended Ceilings
- Timber Frame External Walls (see page 41)
- Internal Walls (see page 46)
- Intermediate Timber Floors

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

ULTRACOUSTIC-A ROLL (COMBI-CUT)

Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (m)	Width (mm)	Product Format	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code	NRC
50	1.51	1.60	5.00	1200 (2x600)	Combi-cut	6.00	24	144.00	596043	0.88

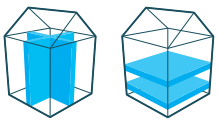
South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

ACOUSTIC BATT

NON-COMBUSTIBLE INSULATION



APPLICATION

- Internal Walls (see page 46)
- Intermediate Timber Floors

PRODUCT DESCRIPTION

Acoustic Batts are semi-rigid slabs designed for friction-fitting in metal and timber studs, including drywall partitioning. They are also suitable for intermediate floors with cavities such as timber or metal joist constructions.

Made to 600mm widths to suit standard stud centres, there is no need to cut to the correct width, making installation quick and easy. Packs are lightweight and compact, making them easy to carry, helping to prevent damage associated with dragging larger, heavier packs.

BENEFITS

- Sound absorption characteristics improve the acoustic performance of internal walls and floors
- Advanced compression technology provides packs that are compact and easy to carry
- 600mm wide batts allow for fast installation
- Non-combustible Euroclass A1 reaction to fire classification
- Manufactured with ECOSE® Technology for improved handling and installation
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

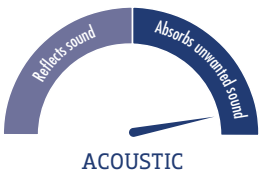
SPECIFICATIONS

ACOUSTIC BATT

Thickness (mm)	**Length** (mm)	**Width** (mm)	**Product Format**	**Slabs per pack**	**Area per pack** (m^2)	**Packs per pallet**	**Area per pallet** (m^2)	**Article code**	**NRC**
51	1200	600	Uncut	20	14.40	28	403.20	660772	0.83e
63	1200	600	Uncut	16	11.52	28	322.56	661280	0.89e
100	1200	600	Uncut	12	8.64	32	276.48	660771	1.04e

e = estimate

FIRE

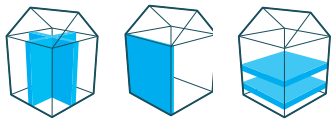


ACOUSTIC

Fire: Euroclass reaction to fire classification

CAVITY ROLL (READY-CUT)

NON-COMBUSTIBLE INSULATION



APPLICATION

- Framed External Walls (see page 41)
- Internal Walls (see page 46)
- Intermediate Timber Floors

PRODUCT DESCRIPTION

Cavity Rolls (Ready-cut) are designed for friction-fitting in timber and metal studs for drywall partitioning and may also be used in some external wall applications, dependent on the construction.

Cavity Rolls (Ready-cut) are ready cut into 2 x 600mm widths, to suit standard stud centres, allowing faster installation by removing the need to measure or cut on site. Installing a continuous piece of insulation within the studs avoids butt joints and potential acoustic bridging associated with batts.

BENEFITS

- Rolls are ready-cut into 600mm widths for fast installation
- Friction-fitting between studs for ease of installation
- Suitable for use in metal or timber studs
- Provides acoustic performance and helps prevent acoustic bridging
- Advanced compression technology provides more per pack for less storage, handling and transportation
- Non-combustible Euroclass A1 reaction to fire classification
- Manufactured with ECOSE® Technology for improved handling and installation
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

CAVITY ROLL (READY-CUT)

Thickness (mm)	**R-value** (m^2K/W)	**R-value** (m^2K/W)	**Length** (m)	**Width** (mm)	**Product Format**	**Area per pack** (m^2)	**Packs per pallet**	**Area per pallet** (m^2)	**Article code**	**NRC**
51	1.34	1.35	14.00	1200 (2x600)	Ready-cut	16.80	24	403.20	592787	0.77
63	1.65	1.70	12.00	1200 (2x600)	Ready-cut	14.40	24	345.60	592813	0.85e
100	2.63	2.70	7.50	1200 (2x600)	Ready-cut	9.00	24	216.00	595698	1.00

South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

e = estimate

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

KNAUFINSULATION

DRITHERM® MASONRY CAVITY SLAB 37

NON-COMBUSTIBLE INSULATION

PRODUCT DESCRIPTION

DriTherm® Masonry Cavity Slab 37 is a water-repellent Glass Mineral Wool slab, designed for use in external full-fill masonry cavity walls, offering a range of thermal performance to suit construction requirements.

It is non-combustible with the best possible Euroclass A1 reaction to fire classification, and is manufactured using Knauf Insulation's unique bio-based binder, ECOSE® Technology.

BENEFITS

- Made with a water repellent additive to maintain dry cavities
- Provides thermal performance reducing energy bills
- Reduces heat gain during the day, and heat loss at night, for a more comfortable environment
- Non-combustible Euroclass A1 reaction to fire classification
- Suitable for use with standard bricks, blocks and mortar mixes
- Slabs sized to fit between wall ties spaced at 455mm
- Manufactured with ECOSE® Technology for improved handling and installation
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

APPLICATION

- External Masonry Cavity Walls (see page 40)

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

DRITHERM® MASONRY CAVITY SLAB 37

PROJECT RANGE

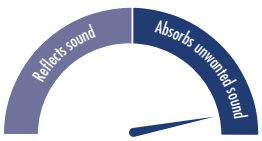
Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (mm)	Width (mm)	Product Format	Slabs per pack	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code
50	1.42	1.40	1200	455	Uncut	12	6.55	30	196.56	316650
65	1.75	1.80	1200	455	Uncut	10	5.46	40	218.40	316652
75	1.93	2.00	1200	455	Uncut	8	4.37	50	218.40	316654

Other thicknesses, up to 150mm, are available on request.

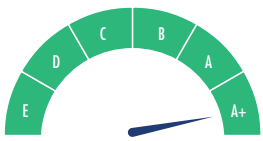
South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

FIRE



ACOUSTIC



SUSTAINABILITY

R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

MASONRY PARTY WALL SLAB

NON-COMBUSTIBLE INSULATION

PRODUCT DESCRIPTION

Masonry Party Wall Slabs are a flexible Glass Mineral Wool slab which is lightweight, resilient and non-combustible. It is designed as a full-fill thermal and acoustic solution for use in masonry separating party walls between adjoining apartments, semi-detached and terraced houses.

BENEFITS

- Provides thermal performance, preventing party wall thermal bypass
- Reduces energy costs
- Sound absorption characteristics improve the acoustic performance between adjacent properties
- Made with a water repellent additive to maintain dry cavities
- Non-combustible Euroclass A1 reaction to fire classification
- Manufactured with ECOSE® Technology for improved handling and installation
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

APPLICATION

- Separating (Party) Walls (see page 45)

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

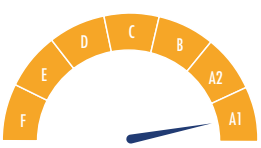
MASONRY PARTY WALL SLAB

PROJECT RANGE

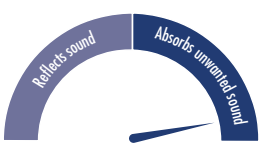
Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (mm)	Width (mm)	Product Format	Slabs per pack	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code
75	2.04	2.05	1200	455	Uncut	16	8.74	20	174.72	2441351
100	3.10	2.75	1200	455	Uncut	12	6.55	20	131.04	2441353

South African R-values calculated assuming 23°C mean temperature.

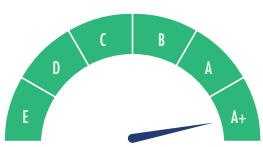
Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.



FIRE



ACOUSTIC

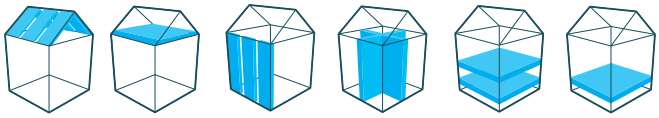


SUSTAINABILITY

R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

OMNIFIT® ROLLS 34 & 40



APPLICATION

- Pitched Roofs - Ceiling Level (see page 32)
- Pitched Roofs - Rafter Level (see page 33)
- Ventilated Façade System (see page 42)
- Internal Floors (see page 50)

NON-COMBUSTIBLE INSULATION

EUROCLASS A1 FIRE CLASSIFICATION

PRODUCT DESCRIPTION

OmniFit® Roll 34 is a Glass Mineral Wool roll, designed for use in multiple applications in both timber and steel frame construction, that offers the best thermal and acoustic performance in the range.

OmniFit® Roll 40 is a Glass Mineral Wool roll, designed for use in multiple applications that offers thermal and acoustic performance.

They are both non-combustible with the best possible Euroclass A1 reaction to fire classification, and are manufactured using Knauf Insulation's unique bio-based binder, ECOSE® Technology.

BENEFITS

- Multi-purpose product which can be used to insulate a wide range of applications, meaning less products on a vehicle and on-site.
- OmniFit® Roll 34 Rolls are 1200mm wide to allow cutting for installation at varying centre dimensions, providing flexibility on-site.
- OmniFit® Roll 40 is partially perforated for use in either timber or steel frame applications at 400mm or 600mm centres.
- Friction fitting between rafters and studwork provides an optimum seal and prevents gaps which can otherwise lead to unwanted heat loss.
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

CE · Indoor Air Comfort eurofins Gold Certified Product · Generic BRE Green Guide Rating A+ · EPD® The International EPD® System · EUCEB · Declare. · Red List Free · Made in Britain · TIPSA

SPECIFICATIONS

OMNIFIT® ROLL 34 (UNCUT)

Thickness (mm)	**R-value** (m^2K/W)	**R-value** (m^2K/W)	**Length** (m)	**Width** (mm)	**Area per pack** (m^2)	**Rolls per pallet**	**Article** code
100	2.75	2.90	5.20	1200	6.240	24	417796
140	3.85	4.10	4.20	1200	5.040	24	474996
150	4.15	4.40	3.50	1200	4.200	24	417800
180	5.00	5.25	3.00	1200	3.600	24	416113
220*	6.10	6.45	2.50	1200	3.000	24	416121

*All dimensions are nominal. * Full loads only*

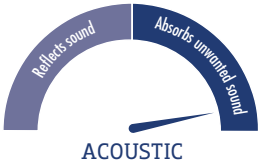
OMNIFIT® ROLL 40 (COMBI-CUT)

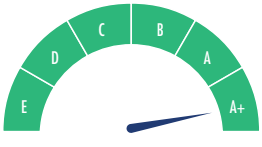
Thickness (mm)	**R-value** (m^2K/W)	**R-value** (m^2K/W)	**Length** (m)	**Width** (mm)	**Area per pack** (m^2)	**Rolls per pallet**	**Article** code
100	2.30	2.50	6.80	1200 (2x600 or 3x400)	8.160	40	474381
150	3.45	3.75	4.55	1200 (2x600 or 3x400)	5.460	40	474386
200	4.65	5.00	3.40	1200 (2x600 or 3x400)	4.080	40	474509

All dimensions are nominal

South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.





Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

challenge. create. care.

OMNIFIT® SLAB 35

NON-COMBUSTIBLE INSULATION

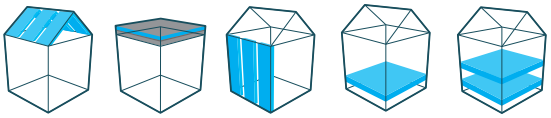
PRODUCT DESCRIPTION

OmniFit® Slab 35 is a Glass Mineral Wool slab, designed for use in multiple applications in both timber and steel frame construction, that offers thermal and acoustic performance.

It is non-combustible with the best possible Euroclass A1 reaction to fire classification, and is manufactured using Knauf Insulation's unique bio-based binder, ECOSE® Technology.

BENEFITS

- Multi-purpose product which can be used to insulate a wide range of applications, meaning less products on a vehicle and on-site.
- Manufactured size allows friction fitting between common stud centres without any cutting and waste on-site.
- Engineered to provide high level of robustness whilst maintaining installation flexibility.
- Awarded the DECLARE 'Red List Free' label which means it is free of any harmful chemicals listed on the Living Building Challenge (LBC) Red List.



APPLICATION

- Pitched Roofs - Rafter Level (see page 33)
- Flat Roof - Cold Roof (see page 34)
- Frame Walls (see page 41)
- Ventilated Façade System (see page 42)
- Internal Floors (see page 50)

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

OMNIFIT® SLAB 35 (600MM WIDE)

Thickness (mm)	**R-value** (m^2K/W)	**R-value** (m^2K/W)	**Length** (mm)	**Width** (mm)	**Slabs per pack**	**Area per pack** (m^2)	**Packs per pallet**	**Article** code
50	1.30	1.40	1200	600	12	8.640	24	474329
70	1.85	2.00	1200	600	8	5.760	32	474334
75	2.00	2.10	1200	600	8	5.760	32	587268
90	2.40	2.55	1200	600	6	4.320	36	474337
100	2.65	2.85	1200	600	6	4.320	32	474340
140	3.75	4.00	1200	600	4	2.880	36	474342
150	4.00	4.25	1200	600	4	2.880	32	587280

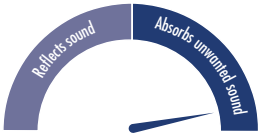
All dimensions are nominal.

OMNIFIT® SLAB 35 (400MM WIDE)

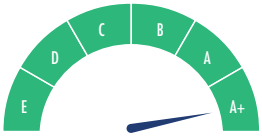
Thickness (mm)	**R-value** (m^2K/W)	**R-value** (m^2K/W)	**Length** (mm)	**Width** (mm)	**Slabs per pack**	**Area per pack** (m^2)	**Packs per pallet**	**Article** code
50	1.30	1.40	1200	400	12	5.760	36	474293
100	2.65	2.85	1200	400	6	2.880	42	474314
140	3.65	4.00	1200	400	4	1.920	48	474318

All dimensions are nominal.

FIRE



ACOUSTIC



SUSTAINABILITY

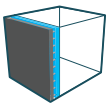
THERMAL

Fire: Euroclass reaction to fire classification | *Sustainability:* Generic BRE Green Guide rating

ROCKSILK® RAINSCREEN SLABS

NON-COMBUSTIBLE INSULATION

with ECOSE® TECHNOLOGY



APPLICATION

- Ventilated Façade Systems (see page 42)

PRODUCT DESCRIPTION

Rocksilk® RainScreen Slab is a BBA certified Rock Mineral Wool slab designed for use as sheathing insulation in rainscreen façade systems in all buildings of any height.

It is non-combustible with the best possible Euroclass A1 reaction to fire classification, and is manufactured using our unique bio-based binder, ECOSE® Technology.

BENEFITS

- Non-combustible Euroclass A1 reaction to fire classification
- Provides thermal performance, reducing energy costs
- Sound absorption characteristics provide high levels of sound reduction
- Suitable for use on both masonry substrates and metal frame structures
- Semi-rigid slabs ensure dimensional stability preventing encroachment into the cavity space
- Suitable for use on all buildings where fire safety is critical
- Suitable for use with outer leaf manufactured with glass, ceramic, aluminium or cement boards such as Knauf Aquapanel®
- Manufactured with ECOSE® Technology for improved handling and installation

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

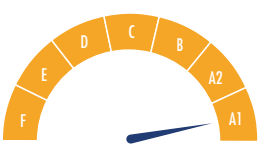
ROCKSILK® RAINSCREEN SLABS

Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (mm)	Width (mm)	Product Format	Slabs Per pack	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code
50	1.39	1.45	1200	600	Uncut	8	5.76	12	69.12	640909
75	2.09	2.0	1200	600	Uncut	6	4.32	12	51.84	640911
100	2.79	2.0	1200	600	Uncut	4	2.88	12	34.56	640914

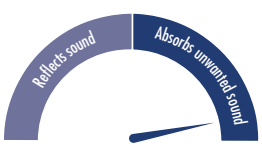
Other thicknesses, up to 210mm, are available on request.

South African R-values calculated assuming 23°C mean temperature.

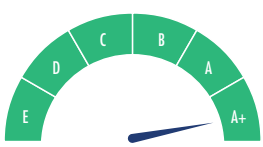
Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.



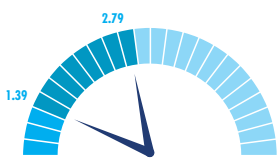
FIRE



ACOUSTIC



SUSTAINABILITY



R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

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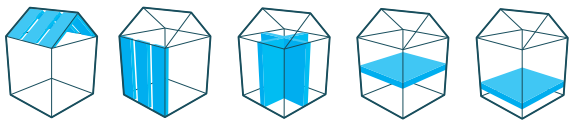
ROCKSILK® BUILDING SLABS



APPLICATION

- Pitched Roofs – Rafter Level (see page 33)
- Framed Walls (see page 41)
- Internal Walls (see page 46)
- Intermediate Timber Floors
- Ground Floors (see page 48)
- Fabrication

NON-COMBUSTIBLE INSULATION

EUROCLASS A1 FIRE CLASSIFICATION

PRODUCT DESCRIPTION

Rocksilk® Building Slabs are Rock Mineral Wool slabs manufactured in a range of densities, designed for use in multiple thermal and acoustic applications where density is critical.

They are non-combustible with the best possible Euroclass A1 reaction to fire classification, and are manufactured using Knauf Insulation's unique bio-based binder, ECOSE® Technology.

Alternative densities and thicknesses are available on request.

BENEFITS

- Single slab can be used for multiple applications.
- Can be provided with a factory applied foil or tissue facing, offering solutions for a wide variety of applications.

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

CE · INDOOR AIR COMFORT eurofins GOLD CERTIFIED PRODUCT · Generic BRE Green Guide Rating A+ · EPD® THE INTERNATIONAL EPD® SYSTEM · EUCEB · MADE IN BRITAIN · RAL · TIPSA

SPECIFICATIONS

Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (mm)	Width (mm)	Product Format	Slabs Per pack	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code	NRC
ROCKSILK® RS45											
25	0.70	0.70	1200	600	Uncut	20	14.40	12	172.80	2411325	0.65
30	0.84	0.85	1200	600	Uncut	16	11.52	12	138.24	2411424	0.70e
40	1.12	1.10	1200	600	Uncut	12	8.64	12	103.68	2411326	0.80e
50	1.40	1.40	1200	600	Uncut	10	7.20	12	86.40	2411327	0.96
60	1.68	1.70	1200	600	Uncut	8	5.76	12	69.12	2411425	1.03e
75	2.09	2.10	1200	600	Uncut	6	4.32	12	51.84	2411328	1.10
100	2.79	2.85	1200	600	Uncut	5	3.60	12	43.20	2411339	1.20
150	4.19	4.25	1200	600	Uncut	3	2.16	12	25.92	531096	1.40e
ROCKSILK® RS60											
25	0.72	0.70	1200	600	Uncut	18	12.96	12	172.80	2411430	0.65
40	1.15	1.10	1200	600	Uncut	12	6.48	12	103.68	2411432	0.80e
50	1.44	1.40	1200	600	Uncut	9	6.48	12	86.40	2411329	0.90e
60	1.73	1.70	1200	600	Uncut	7	5.04	12	69.12	2411433	1.10e
75	2.17	2.10	1200	600	Uncut	6	4.32	12	51.84	2411330	1.15
100	2.89	2.85	1200	600	Uncut	4	2.88	12	43.20	2411331	1.40e
ROCKSILK® RS100											
25	0.74	0.70	1200	600	Uncut	12	8.64	16	172.80	2411438	0.75
30	0.88	0.85	1200	600	Uncut	10	7.20	16	138.24	2411439	0.75e
40	1.18	1.10	1200	600	Uncut	7	5.04	16	103.68	2411440	0.90e
50	1.47	1.40	1200	600	Uncut	6	4.32	16	86.40	2411441	1.05
75	2.21	2.10	1200	600	Uncut	4	2.88	16	51.84	2411333	1.20e
100	2.94	2.85	1200	600	Uncut	3	2.16	16	43.20	2411334	1.40e
ROCKSILK® RS100 WTF1											
30	0.88	0.85	1200	600	Uncut	10	7.20	16	138.24	528143	0.75e

All dimensions are nominal

South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

ROCKSILK® ACOUSTIC FLOOR SLAB PLUS

NON-COMBUSTIBLE INSULATION

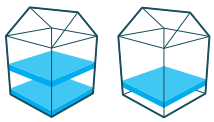
PRODUCT DESCRIPTION

Rocksilk® Acoustic Floor Slab Plus is a Rock Mineral Wool slab with the highest load bearing capability in the range, designed for use in floating floors.

It is non-combustible with the best possible Euroclass A1 reaction to fire classification, and is manufactured using Knauf Insulation's unique bio-based binder, ECOSE® Technology.

BENEFITS

- Suitable for use in reducing impact sound of separating and internal floors
- Sound absorption characteristics provide high levels of sound reduction
- Non-combustible Euroclass A1 reaction to fire classification
- Easy to install



APPLICATION

- Separating Floors – Concrete (see page 49)
- Internal Floors (see page 50)

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

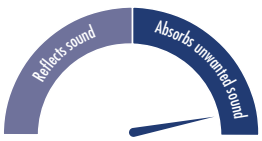
SPECIFICATIONS

ACOUSTIC FLOOR SLAB PLUS

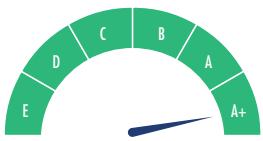
Thickness (mm)	Length (mm)	Width (mm)	Product Format	Slabs per pack	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code	NRC
25	1000	600	Uncut	8	4.80	24	115.20	606069	0.75e
50	1000	600	Uncut	4	2.40	24	57.60	606068	0.89

e = estimate

FIRE



ACOUSTIC

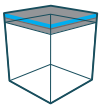


SUSTAINABILITY

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

ROCKSILK® FLAT ROOF SLABS

NON-COMBUSTIBLE INSULATION



PRODUCT DESCRIPTION

Rocksilk® Flat Roof Slab and Rocksilk® Flat Roof Slab Extra are BBA certified Rock Mineral Wool slabs, designed for use in mechanically fixed flat roof build ups onto all types of roof deck.

They are non-combustible with the best possible Euroclass A1 reaction to fire classification,and are manufactured using our Krimpact® Technology.

BENEFITS

- Manufactured using our Krimpact® Technology for high levels of compressive strength and durability.
- Non-combustible Euroclass A1 reaction to fire classification
- For use on roofs of up to 10° pitch
- Thermal performance
- Sound absorption characteristics provide high levels of sound reduction
- Compatible with a wide range of single-ply membranes

APPLICATION

- Flat Roof - Warm roof (see page 36)

CERTIFICATION

SPECIFICATIONS

PROJECT RANGE

ROCKSILK® FLAT ROOF SLAB

Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (mm)	Width (mm)	Product Format	Slabs per pallet	Area per pallet (m^2)	Article code	NRC
100	2.45e	2.60	1200	1000	Uncut	24	26.40	606052	1.00
120	2.95	3.15	1200	1000	Uncut	20	24.00	606055	1.00
145	3.56e	3.80	1200	1000	Uncut	16	18.00	606057	1.00
180	4.42e	4.70	1200	1000	Uncut	14	14.40	606059	1.00

ROCKSILK® FLAT ROOF SLAB EXTRA

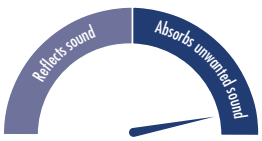
Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (mm)	Width (mm)	Product Format	Slabs per pallet	Area per pallet (m^2)	Article code	NRC
95	2.25	2.40	1200	1000	Uncut	24	28.80	606061	1.00
105	2.50	2.65	1200	1000	Uncut	24	28.80	606064	1.00
125	2.95	3.20	1200	1000	Uncut	20	24.00	606065	1.00
150	3.55	3.80	1200	1000	Uncut	16	19.20	606067	1.00

e = estimate

South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

FIRE



ACOUSTIC

SUSTAINABILITY

R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

ROCKSILK® EWI (EXTERNAL WALL INSULATION) SLABS

NON-COMBUSTIBLE INSULATION

PRODUCT DESCRIPTION

Rocksilk® EWI Slabs are Rock Mineral Wool slabs designed for use in external wall insulation systems. They are non-combustible with the best possible Euroclass A1 reaction to fire classification.

Slabs can be either adhered and mechanically fixed or just mechanically fixed to the substrate, and are available in thicknesses up to 270mm.

The fire resistance of the product removes the need for fire barriers, giving simple, quick and economical insulation for External Wall Insulation systems.

BENEFITS

- Non-combustible Euroclass A1 reaction to fire classification
- Thermal performance
- Sound absorption characteristics provide high levels of sound reduction
- Breathable, allowing moisture vapour to pass through the construction
- Easy to cut with a large bladed knife or serrated saw
- Manufactured with Krimpact® Technology, which provides high levels of compressive strength.

APPLICATION

- External Wall Insulation (see page 43)

CERTIFICATION

SPECIFICATIONS

PROJECT RANGE

ROCKSILK® EWI (EXTERNAL WALL INSULATION) SLABS

Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (mm)	Width (mm)	Product Format	Slabs per pallet	Area per pallet (m^2)	Article code	NRC
60	1.55	1.70	1200	600	Uncut	40	28.80	266166	
90	2.35e	2.50	1200	600	Uncut	24	17.28	264382	1.00
100	2.61e	2.75	1200	600	Uncut	24	17.28	264383	1.00
110	2.87e	3.05	1200	600	Uncut	20	14.40	271267	1.00
120	3.13e	3.30	1200	600	Uncut	20	14.40	271217	1.00
150	3.90	4.15	1200	600	Uncut	16	11.52	271270	
170	4.40	4.70	1200	600	Uncut	14	10.08	271277	
200	5.20	5.55	1200	600	Uncut	12	8.64	271494	
230	6.00	6.40	1200	600	Uncut	10	7.20	402600	
250	6.50	6.95	1200	600	Uncut	10	7.20	519396	
270	7.00	7.50	1200	600	Uncut	8	5.76	595566	

e = estimate

South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

FIRE ACOUSTIC SUSTAINABILITY R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

DUCT ROLLS

(THERMO-TEK RL ECO ALU)

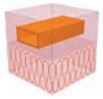
NON-COMBUSTIBLE INSULATION

PRODUCT DESCRIPTION

Thermo-teK RL Eco Alu is a non-combustible, Mineral Wool roll with added reinforced aluminium foil facing, for use in the thermal insulation of square, rectangular, circular, oval and flat-oval ductwork.

BENEFITS

- Manufactured using Knauf Insulation's unique bio-based binder, ECOSE® Technology
- Non-combustible Euroclass A1 Reaction to Fire Classification
- Flexible, strong design
- Tear-resistant, strong aluminium facing
- Easy to handle



APPLICATION

- Thermal Protection – Ductwork (see page 51)
- Acoustic Protection – Ductwork (see page 51)

PART OF THE TECHNICAL SOLUTIONS RANGE

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

DUCT ROLLS (THERMO-TEK RL ECO ALU

Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (m)	Width (mm)	Product Format	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code
25	0.73	0.75	18.00	1200	Uncut	21.60	18	388.80	724112
40	1.17	1.20	12.00	1200	Uncut	14.40	18	259.20	724111
50	1.46	1.50	9.00	1200	Uncut	10.80	18	194.40	724110

South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

PERFORMANCE

Properties	Symbol	Description / Data			Unit	Test Method/Standard
Maximum service temperature	ST(+)	230			°C	EN 14706
Reaction to fire	–	A2			–	EN 13501-1
Heat conductivity	ϑ	10	50	100	°C	EN ISO 8497
Air inside duct (ambient 20°C)	λ	0.033	0.041	0.050	W/(m·K)	
Nominal density	ρ	32			kg/m³	

**The aluminium facing can be exposed to temperatures up to 80 °C. See the data sheet for current and complete specifications.*

FIRE ACOUSTIC SUSTAINABILITY R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating 'Glass Mineral Wool content only'

THERMO-TEK BD 060 ALU

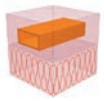
NON-COMBUSTIBLE INSULATION

PRODUCT DESCRIPTION

Thermo-teK BD 060 Alu is a non-combustible, Rock Mineral Wool slab with foil facing, for use in the thermal insulation of square and rectangular ductwork.

BENEFITS

- Designed for square and rectangular ductwork in heating, ventilation and air conditioning systems
- Thermal vperformance
- Non-combustible Euroclass A1 reaction to fire classification
- Manufactured with ECOSE® Technology for improved handling and installation



APPLICATION

- Thermal Protection – Ductwork (see page 51)
- Acoustic Protection – Ductwork (see page 51)

PART OF THE TECHNICAL SOLUTIONS RANGE

For the Feel Good Factor, use Knauf Insulation Mineral Wool with the added ECOSE® Technology benefits. See page 12 for further details.

with ECOSE® TECHNOLOGY

CERTIFICATION

SPECIFICATIONS

PROJECT RANGE

THERMO-TEK BD 060 ALU

Thickness (mm)	R-value (m^2K/W)	R-value (m^2K/W)	Length (mm)	Width (mm)	Product Format	Slabs Per pack	Area per pack (m^2)	Packs per pallet	Area per pallet (m^2)	Article code
40	1.20	1.20	1200	600	Uncut	8	5.76	14	80.64	2439731
50	1.50	1.50	1200	600	Uncut	8	5.76	12	69.12	2439732

South African R-values calculated assuming 23°C mean temperature.

Euro R-values based on 10°C mean temperature, calculated according to requirements of λ90:90 for declaring thermal performance and following the European norm standard including audited factory production control.

PERFORMANCE

Properties	Symbol	Description / Data			Unit	Test Method/Standard
Maximum service temperature	ST(+)	250			°C	EN 14706
Reaction to fire	–	A1			–	EN 13501-1
Heat conductivity	ϑ	10	50	100	°C	
Air inside duct (ambient 20°C)	λ	0.033	0.040	0.047	W/(m·K)	
Nominal density	ρ	48			kg/m³	

**The aluminium facing can be exposed to temperatures up to 80 °C. See the data sheet for current and complete specifications.*

FIRE ACOUSTIC SUSTAINABILITY R-VALUE

Fire: Euroclass reaction to fire classification | *Sustainability:* BRE Green Guide rating

challenge. create. care.

FIRE DUCT SLABS

(FIRE-TEK BD 917)

NON-COMBUSTIBLE INSULATION

PRODUCT DESCRIPTION

Fire-teK BD 917 is a rigid Rock Mineral Wool slab reinforced with an aluminium foil facing to one side, for use in the fire protection of HVAC steel ductwork for up to 120 minutes.

BENEFITS

- Has a melting point in excess of 1000°C providing excellent levels of fire protection.
- Applied in a single thickness, removing the need for multi-layer applications, and provides assurance of a uniform thickness and allows for easy verification of correct installation on site.
- Slab is faced with a reinforced aluminium foil, making it suitable for applications above clean rooms, within air plenums or for aesthetic purposes.
- Fast and simple fixing system of welded pins and square edge butt joints, requiring no special cuts, drilling or sub-frames so the slabs are fast and easy to install.

APPLICATION

- Fire Protection – Ductwork (see page 51)

PART OF THE TECHNICAL SOLUTIONS RANGE

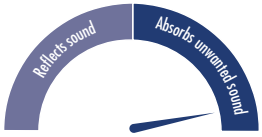
CERTIFICATION

SPECIFICATIONS

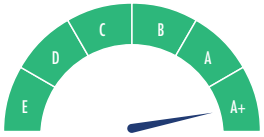
PROJECT RANGE

FIRE DUCT SLABS (FIRE-TEK BD 917)

Thickness (mm)	**Length** (mm)	**Width** (mm)	**Product Format**	**Slabs per pack**	**Area per pack** (m^2)	**Packs per pallet**	**Area per pallet** (m^2)	**Article** code
45	1200	600	Uncut	4	2.88	12	34.56	2361481
90	1200	600	Uncut	2	1.44	12	17.28	2361482



ACOUSTIC



SUSTAINABILITY

Sustainability: BRE Green Guide rating

ORDER QUANTITIES

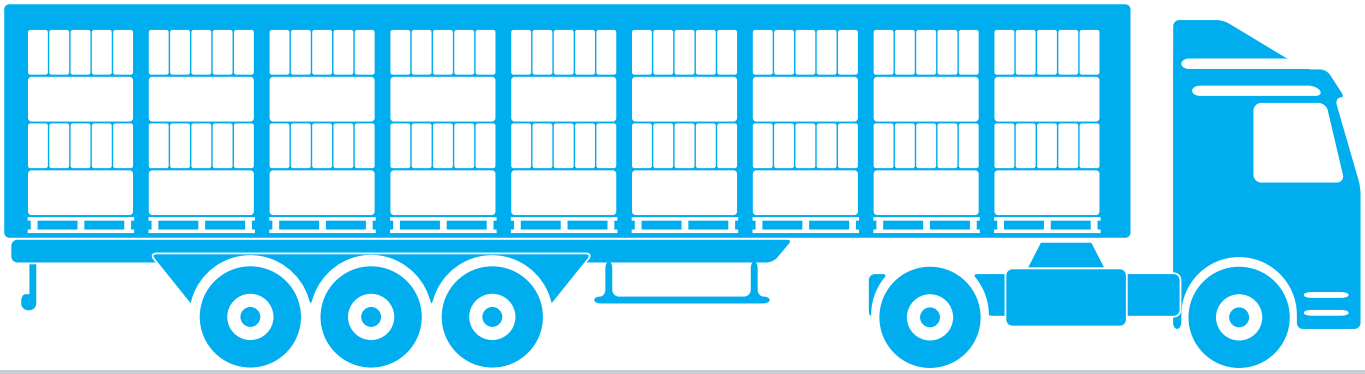
- Products are palletised*
- Minimum order quantity per SKU (Stock Keeping Unit - i.e. specific product dimension) is a single pallet as part of a full load
- A full load comprises any mix of 18 pallets of products that appear in this sales and specification guide
- Made-to-order products are available subject to lead time and minimum order quantities.

* *Glass Mineral Wool products are always palletised, some Rock Mineral Wool products may not be palletised*

** *Customs clearance may occasionally extend the lead time for which Knauf Insulation is not able to accept responsibility*

LOGISTICS

- Deliveries are made in 40' High Cube containers, ie., 18 pallets in total or equivalent in loose packs* on some Rock products
- Terms are based on full load deliveries – see your 'Customer Terms Confirmation' (CTC) document
- Lead time for standard products is typically 25 days**
  - following credit clearance / receipt of approved letter of credit
  - from acknowledgement of receipt of order
  - some destinations may have a longer lead time – please enquire
- Prices are offered on the basis of FOB incoterms (Free on Board) with the option of sea freight as a separate chargeable service – see your CTC for clarification. Other delivery options may be available on request.



DEALER LOGISTICS PACKAGE, CUSTOMER SERVICES & TECHNICAL SUPPORT

CUSTOMER SERVICE

- Orders can be placed by sending your purchase order to export.sales@knaufinsulation.com
- Purchase orders should include the following information:
  - unique purchase order number
  - article codes (Please see the product guide)
  - product names (Please see the product guide)
  - price (Please see your CTC)
  - quantities required per pallets for Glass Mineral Wool products or packs for Rock Mineral Wool products*
  - port of delivery
  - contact name and telephone number
- Customer Services are available between 08.30-17.00 (GMT) Monday-Friday to assist with orders, delivery queries or pro-forma invoices.

  Telephone: **+44 1744 766 767**

  Email: **export.sales@knaufinsulation.com**

TECHNICAL SUPPORT

Knauf Insulation offers advice on all products and solutions through the Technical Support Team who provide free, expert advice for stockists, dealers, architects and professional end-users in the construction industry.

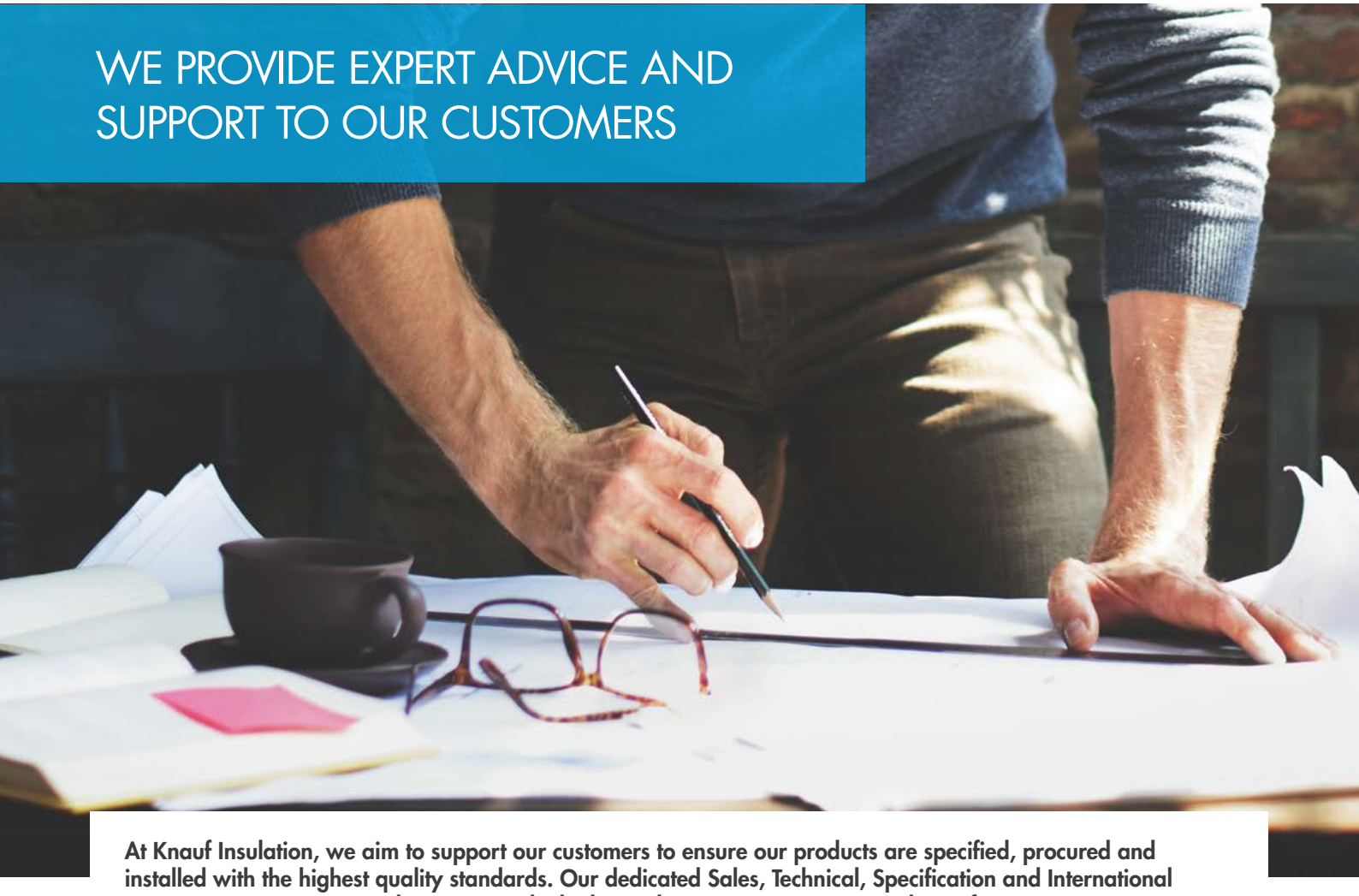
The Technical Support Team is available 08.30-17.00 (GMT) Monday to Friday. Emails will usually be answered within 24 hours.

Telephone: **+44 1744 766 666**

Email: **technical.uk@knaufinsulation.com**

Web: **knaufinsulation.co.za**

WE PROVIDE EXPERT ADVICE AND SUPPORT TO OUR CUSTOMERS



At Knauf Insulation, we aim to support our customers to ensure our products are specified, procured and installed with the highest quality standards. Our dedicated Sales, Technical, Specification and International Customer Service team are here to provide the best advice to our customers and specifiers.

Technical Support Team

We offer unparalleled expert advice on all our products and solutions through our in-house Technical Support Team.

With over 40 years insulation experience, our UK Technical Support Team provide free, expert advice for builders merchants, distributors, stockists, architects and any other customers involved in the construction industry and the wider specification community.

Our technical support help desk is staffed from 8.00am to 5.00pm (GMT) Monday to Thursday and 8.00am - 4.00pm (GMT) Friday by experienced insulation experts.

As well as technical advice, our Technical Support Team can provide U-value calculations, NBS clauses and 3D Heat Loss/U-value Calculations.

Alternatively, you can email technical.uk@knaufinsulation.com

We will normally respond to emails within 24 hours.

Marketing Support

We provide a fast turnaround on sample and literature requests, eliminating delays with planning and client approval of material, so that projects begin on time.

All our collaterals are also available on our website at knauf-insulation.co.za/downloads

Specifications Documentations and Tools

Building Information Modelling (BIM)

Since the early days, we have been leading the way when it comes to BIM. Our BIM experts across Europe and the US worked on several BIM standards across Northern Europe especially where BIM has now established a European Standard. We were the first insulation manufacturer in the world to make our product data open and available to all our customers in all BIM formats (IFC, COBie etc..). Our BIM objects are not only easily accessible and user-friendly; they are also packed with reliable, comprehensive data, such as DOP, EPDs and CE marking. They are available on our website at knaufinsulation.co.uk/technical-support/building-information-modelling-bim

Insulation CAD Details and NBS Specification Clauses

All our CAD details are available on our website in .DWG format and fully compatible with AutoCAD. You will need a version of AutoCAD or a .DWG viewer installed on your computer to view or use these files. They are available on our website at knaufinsulation.co.uk/technical-support/nbs-cad

Other certifications and accreditations

We are recognised in the UK by numerous certification and accreditation.

BBA certifications

The British Board of Agreement offers third party certification for the use of building products and systems in critical applications. We have a number of products certified, and are always seeking to increase our portfolio - knaufinsulation.co.uk/downloads/bba-certificates

Continuing Professional Development (CPD)

Our range of CPDs provide an essential service to architects and specifiers, helping them keep up to date with innovations in a rapidly changing and evermore challenging environment knaufinsulation.co.uk/technical-support/cpd

CONTACTS

Customer Service (sales)
+44 1744 766 767
export.sales@knaufinsulation.com

Technical Support Team
+44 1744 766 666
technical.uk@knaufinsulation.com

Knauf Insulation Ltd PO Box 10, Stafford Road, St. Helens, Merseyside, WA10 3NS. UK

For more information please visit **knaufinsulation.co.za**

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