

ROCKWOOL Sustainable Project Solutions Guide

The right choice for creating sustainable buildings and achieving LEED v4, v4.1 and WELL Certification



The ROCKWOOL Group is the world leader in stone wool solutions. Our product portfolio is well placed to tackle many of today's biggest sustainability and development challenges and we offer carefully designed, innovative sustainable solutions for your comfort, safety and for the benefit of the environment.

Our products

ROCKWOOL stone wool insulation products not only help in creating sustainable buildings; they are made from a natural fire safe and durable material with no added flame retardants or blowing agents.

Rock: A natural, renewable resource

All ROCKWOOL products are made from stone wool – consisting of a blend of naturally occurring volcanic diabase rock. This stone is a renewable and plentiful natural resource in itself, but just as importantly our high-tech production process ensures that all our insulation products are produced in a sustainable and environmentally responsible way.

Major energy savings

One of the best ways to reduce the energy consumption of a building is through proper insulation. ROCKWOOL stone wool products are a major energy and CO₂ saver, as they allow new and existing buildings to benefit from durable, efficient and versatile thermal insulation. Actually, the energy savings obtained from installing the right insulation will outweigh the energy consumption used for its production in just a few months time.

In most cases, properly installed insulation can cut the building's energy need for heating or cooling of up to 70-90%. In addition, ROCKWOOL insulation works continuously and requires no maintenance or replacement. In other words, it's an investment, which will quickly pay off!

Creating sustainable buildings

The LEED v4 and v4.1 Green Building Rating System includes revised performance criteria for certifying the design and construction of commercial, institutional and residential buildings. LEED® works for all buildings anywhere, regardless of where they are in their life cycle and the process is designed to inspire innovative solutions that support healthy, highly efficient and cost-saving green buildings during the design, construction, operation and maintenance of these high-performance structures.

ROCKWOOL insulation is the right choice for creating sustainable buildings and achieving LEED® v4 and v4.1 points for your high-performance buildings.

Creating Healthy Spaces

The WELL 1.0 standard was launched in 2014, which helped the global community apply the principals of health to their spaces. Created by both Doctors and building practitioners, projects designed to the WELL building standard inspire health to its occupants.

WELL has now been updated in 2018 with WELL v2, which combines the most current health data and research to make the most optimum standard.



Energy & Atmosphere

Minimum energy performance & Optimize energy performance

Energy efficient building design requires a well-insulated and properly constructed building envelope. ROCKWOOL provides a range of thermal insulation products that can be used on the exterior, interior or both to achieve the prerequisite minimum energy performance and optimized energy performance credits. Looking to reduce operational carbon emissions or meet the LEEDv4.1 pathway for GHG emissions reductions? ROCKWOOL products can help!



ROCKWOOL WELL Contributions

At ROCKWOOL we're committed to improving the health of the spaces we spend over 90% of our time in. The following are ways ROCKWOOL products help to support the WELL program features for both the WELL 1.0 and 2.0 standards:

WELL 1.0

Air Concept:

Feature 4: VOC Reduction

Supporting your indoor air quality management plans, and the newest building codes and regulations, our low-emitting products support a healthy and efficient indoor environment. Our products are resistant to mold, bacteria and humidity.

ROCKWOOL's AFB®, AFB® evo, COMFORTBATT®, CURTAINROCK®, CURTAINROCK® 40/80, ROXUL SAFE™ and SAFE'n'SOUND® have been awarded UL Environment's GREENGUARD Gold Certification for low-emitting products, meaning they meet the limits set by CDPH Standard Method v1.2-2017 (using a classroom environment).

Furthermore, ROCKWOOL has several exterior and multipurpose insulation products that have also been certified by UL Environment to be compliant with CDPH Standard Method v1.2-2017. A full list of compliant products is available for download here

<https://www.rockwool.com/about/sustainability/certifications-and-listings/#voc>

Feature 25: Toxic Material Reduction

All ROCKWOOL products produced are screened for Halogenated Flame Retardants to the 100ppm level. We do not have any Halogenated Flame Retardants to the 100ppm level within any of the ROCKWOOL products we produce.

Our AFB® evo product is produced with a fructose binder and does not contain any UREA-Formaldehyde

Feature 26: Enhanced Material Safety

ROCKWOOL's AFB, CAVITYROCK®, COMFORTBOARD®, COMFORTBATT®, CURTAINROCK®, CURTAINROCK® 40/80, FRONTROCK®, ROCKBOARD®, ROXUL SAFE™ and SAFE'n'SOUND® have achieved LBC Red List Approved, and ROCKWOOL AFB® evo has achieved LBC Red List Free Declare labels, which can help project teams meet the Materials Petal requirements that could support a project team meeting the Feature 26 requirements.

Comfort Concept:

Feature 76: Thermal Comfort

Through the insulation properties of ROCKWOOL insulation products, we can help your project team meet the ASHRAE 55-2013 Section Standard requirements.

Feature 78: Reverberation Time; Feature 80: Sound Reducing Surfaces; Feature 81: Sound Barriers

Combining the sound-absorbing performance of our acoustic insulation with the sound-blocking performance of our plenum barriers, ROCKWOOL solutions can support reaching these WELL building requirements for sound transmission, reduction and reverberation time.

Mind Concept:

Feature 97: Material Transparency

ROCKWOOL has a number of LBC Approved and Red List Free Declare Labels and Health Product Declarations (HPDs) that can also help project teams meet the requirements of this feature. Further, ROCKWOOL has developed Manufacturer Inventories to the 1,000ppm level that transparently disclose our products chemistry, CASRNS and GreenScreen List translator scores associated with each chemical substance. These Manufacturer Inventories meet the LEED v4 and v4.1 requirements and can help a project team meet the requirements of this feature. These material ingredient reports and manufacturer inventories are available for download at

<https://www.rockwool.com/about/sustainability/certifications-and-listings/>



WELL 2.0

Thermal Comfort Concept:

Feature T01 (Prerequisite): Thermal Performance;

Feature T02 Enhanced Thermal Performance

Through the insulation properties of ROCKWOOL insulation products, we can help your project team meet the ASHRAE 55-2013 Section Standard requirements.

Sound Concept:

Feature S02: Maximum Noise Levels; S03 Sound Barriers; Feature S04: Sound Absorption

Combining the sound-absorbing performance of our acoustic ceiling system with the sound-blocking performance of our plenum barriers, ROCKWOOL solutions can support reaching these WELL building requirements for sound transmission and reverberation time.

Materials Concept

Feature X10: Volatile Compound Reduction

All ROCKWOOL products produced are screened for Halogenated Flame Retardants to the 100ppm level. We do not have any Halogenated Flame Retardants to the 100ppm level within any of the ROCKWOOL products we produce. Our evo product does not contain any Urea-Formaldehyde.

Feature X11 Long-Term Emissions Control:

ROCKWOOL's AFB®, AFB® evo, COMFORTBATT®, CURTAINROCK®, CURTAINROCK® 40/80, ROXUL SAFE™ and SAFE'n'SOUND® have been awarded UL Environment's GREENGUARD Gold Certification for low-emitting products, meaning they meet the limits set by CDPH Standard Method v1.2-2017 (using a classroom environment).

Furthermore, ROCKWOOL has several exterior and multipurpose insulation products that have also been certified by UL Environment to be compliant with CDPH Standard Method v1.2-2017. A full list of compliant products is available for download here:

<https://www.rockwool.com/about/sustainability/certifications-and-listings/#voc>

Feature X13 Enhanced Material Precaution:

ROCKWOOL's AFB, CAVITYROCK®, COMFORTBOARD®, COMFORTBATT®, CURTAINROCK®, CURTAINROCK® 40/80, FRONTROCK®, ROCKBOARD®, ROXUL SAFE™ and SAFE'n'SOUND® have achieved LBC Red List Approved, and ROCKWOOL AFB® evo has achieved LBC Red List Free Declare labels, which can help project teams meet the Materials Petal requirements that could support a project team meeting the Feature X13 requirements.

Feature X14 Material Transparency:

ROCKWOOL has a number of LBC Approved and Red List Free Declare Labels and Health Product Declarations (HPDs) that can also help project teams meet the requirements of this feature. Further, ROCKWOOL has developed Manufacturer Inventories to the 1,000ppm level that transparently disclose our products chemistry, CASRNS and GreenScreen List translator scores associated with each chemical substance. These Manufacturer Inventories meet the LEED v4 and v4.1 requirements and can help a project team meet the requirements of this feature. These material ingredient reports and manufacturer inventories are available for download here:

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Indoor Environmental Quality

Low-emitting materials

Our wellbeing goes hand-in-hand with the comfort of the environment where we work, live, learn, play or even – in the case of a hospital – recover.

All ROCKWOOL stone wool insulation batt products are certified according to GREENGUARD Gold in accordance with California Department of Public Health (CDPH) Standard Method v1.2-2017.



ROCKWOOL also has a number of exterior and multipurpose insulation products certified by UL Environment to be compliant with CDPH Standard Method v1.2-2017. A full list of compliant products is available for download here.

<https://www.rockwool.com/about/sustainability/certifications-and-listings/#voc>.



ROCKWOOL North American production facilities

With production facilities strategically placed to support local resources and reduced environmental impacts from transportation, ROCKWOOL's primary raw material sources are located in close vicinity of our facilities though certain materials may be sourced from further than 100 miles (160 km).

Milton, Ontario, Canada

The ROCKWOOL Group entered the North American market for the first time in 1988. This location marks the group's first factory and serves as ROCKWOOL's head office for North American operations.

Grand Forks, British Columbia, Canada

This facility has been in operation since November 1999 and was the first expansion for ROCKWOOL within North America. The Grand Forks facility operates to meet the needs of North America's western regions.

Byhalia, Mississippi, USA

In the spring of 2014, a new 600,000 sq. ft. facility opened in Marshall County, Mississippi; approximately 30 miles south of Memphis.

***COMING SOON (2020) – Ranson, West Virginia, USA**

This new manufacturing facility will cover some 460,000 square feet and employ around 150 people.



For information on how ROCKWOOL products and resource-efficient solutions support sustainable design strategies, or for assistance with your calculations, contact one of our Technical Specialists at 1-877-823-9790 or visit www.ROCKWOOL.com.

ROCKWOOL LEED v4 and v4.1 Contributions:

Building life-cycle impact reduction

A properly constructed and well-insulated building envelope utilizing the long lasting high performance of ROCKWOOL thermal insulation products can assist your project team in achieving the building life-cycle impact reduction through a whole-building life-cycle assessment. ROCKWOOL products also have product specific LCA's that can help in analyzing overall product impacts within Whole Building LCA tools to help meet the updated whole building LCA carbon reductions requirements in LEED v4.1.

Building product disclosure and optimization - environmental product declarations

ROCKWOOL™ can deliver a third-party UL certified, product-specific, cradle-to-grave EPDs that are EN 15804 and ISO 14025 compliant, and available for download here

www.rockwool.com/about/sustainability/certifications-and-listings/#epd

ROCKWOOL is not only committed to reducing operational carbon emissions through insulation properties in buildings, but also committed to reducing our product's life cycle and embodied carbon impacts. Our insulation products are modeled in the Embodied Carbon in Construction Calculator tool (EC3). For more information on how our products embodied carbon impacts compare to other insulation products go to www.buildingtransparency.org

Building product disclosure and optimization - sourcing of raw materials

ROCKWOOL stone wool products are made up of approximately 97 percent minerals such as volcanic rock, as well as upcycled and recycled materials from our factories and other industries that might otherwise be landfilled.

ROCKWOOL products contain up to 40% recycled content. The majority of this recycled content comes from pre-consumer sources, some come from post-consumer sources. The majority of the pre-consumer material is waste from other industrial facilities.

Stone wool is also fully recyclable and can be recycled again and again without degrading its quality.

The formaldehyde free evo Product is made with super/fructose which is a biobased material. ROCKWOOL has ASTM D6866 testing to confirm the biobased nature of this product and contribute to the LEED v4 and v4.1 requirements.

Building product disclosure and optimization - material ingredients

ROCKWOOL values transparency and has published complete content inventory for its products in the form of LBC Approved and Red List Free Declare Labels, Health Product Declarations (HPDs), and manufacturer inventories. All three of these material ingredient reports contribute to the LEED v4 and v4.1 requirements. The ROCKWOOL manufacturer inventories disclose product content to 0.1% (1,000 ppm), identify all chemicals by name and Chemical Abstract Service Registration Number (CASRN), and disclose substance role, amount and hazard screen using GreenScreen benchmark, as defined in GreenScreen v1.2. These reports are available for download at

<https://www.rockwool.com/about/sustainability/certifications-and-listings/>



40%

The average recycled content of the stone wool core is up to 40%, depending on production site and product.



ROCKWOOL Products for LEED® v4 and v4.1

		Energy and Atmosphere (EA)		Materials & Resources (MR)				Indoor Environmental Quality (EQ)			
		Minimum Energy Performance	Optimize Energy Performance	Building Life-Cycle Impact Reduction	Building Product Disclosure and Optimization - Environmental Product Declarations	Building Product Disclosure and Optimization - Sourcing of Raw Materials	Building Product Disclosure and Optimization - Material Ingredients	Minimum Acoustical Performance	Low-Emitting Materials	Thermal Comfort	Acoustic Performance
ROCKWOOL Products											
Walls	Exterior Walls										
	CAVITYROCK®	x	x	x	x	x	Declare	x	x	x	x
	COMFORTBOARD™ 110	x	x	x	x	x	Declare	x	x	x	x
	COMFORTBOARD™ 80	x	x	x	x	x	Declare	x	x	x	x
	Comfortbatt®	x	x	x	x	x	Declare	x	x	x	x
	Interior Walls										
	AFB®			x	x	x	Declare	x	x		x
	AFB® evo			x	x	x	Declare	x	x*		x
	SAFE'n'SOUND®			x	x	x	Declare	x	x		x
	ROCKBOARD® 40/60/80			x	x	x	Declare	x	x		x
	Curtain Wall										
	CURTAINROCK® 40/80	x	x	x	x	x	Declare	x	x	x	x
	Firestopping										
	ROXUL SAFE™				x	x	Declare	x	x		x
	ROXUL SAFE™ 45				x	x	x	x			x
	Metal Building										
	PLUSTM MB	x	x	x	x	x	x	x		x	x
	ROXUL SAFE™ 65	x	x	x	x	x	x	x		x	x
	ROXUL SAFE™ 55	x	x	x	x	x	x	x		x	x
	Sandwich Wall										
	CONROCK 60®	x	x	x	x	x	x	x		x	x
	CONROCK®	x	x	x	x	x	x	x		x	x
Roofs	Flat Roof										
	TOPROCK® DD	x	x	x	x	x	x	x		x	x
	TOPROCK® DD PLUS	x	x	x	x	x	x	x		x	x
	ROCKWOOL MULTIFIX™	x	x	x	x	x	x	x		x	x
	MONOBOARD®	x	x	x	x	x	x	x		x	x
	MONOBOARD® Plus	x	x	x	x	x	x	x		x	x

* UL validated formaldehyde free

ROCKWOOL Living Building Challenge Contributions:

At ROCKWOOL™ we're committed to improving the health of the spaces we spend over 90% of our time in. The following are ways our Rockwool products help to support the Living Building Challenge (LBC) program Imperatives features for both the LBC 3.1 and 4.0 standards:

LBC 3.1

Energy Petal

Imperative 06: Net Positive Energy

A properly constructed and well insulated building envelope utilizing the long-lasting high performance of ROCKWOOL™ thermal insulation products can assist your project team in achieving net positive energy. ROCKWOOL™ products also have third-party verified, product-specific life cycle assessments (LCAs) that can be used when analyzing overall product impacts within a Whole Building LCA to help meet the requirements of the Net Positive Energy Imperative. ROCKWOOL's UL Environment certified, cradle-to-grave Environmental Product Declarations (EPDs) are EN 15804 and ISO 14025 compliant, and are available for download at

<https://www.rockwool.com/about/sustainability/certifications-and-listings/#epd>

Health + Happiness Petal

Imperative 08: Healthy Interior Environment

ROCKWOOL's AFB®, AFB® evo, COMFORTBATT®, CURTAINROCK®, CURTAINROCK® 40/80, ROXUL SAFE™ and SAFE'n'SOUND® have been awarded UL Environment's GREENGUARD Gold Certification for low-emitting products, meaning they comply with the requirements of California Department of Public Health (CDPH) Standard Method v1.2-2017 (using a classroom environment). Furthermore, ROCKWOOL™ has several exterior and multipurpose insulation products that have also been certified by UL Environment to be compliant with CDPH Standard Method v1.2-2017. A full list of compliant products is available for download at

<https://www.rockwool.com/about/sustainability/certifications-and-listings/#voc>

Materials Petal

Imperative 10: Red List

ROCKWOOL's AFB, CAVITYROCK®, COMFORTBOARD®, COMFORTBATT®, CURTAINROCK®, CURTAINROCK® 40/80, FRONTROCK®, ROCKBOARD®, ROXUL SAFE™ and SAFE'n'SOUND® have achieved LBC Red List Approved, and ROCKWOOL AFB® evo has achieved LBC Red List Free Declare labels, which can help project teams meet the Red List Imperative requirements. These labels are available for download at

<https://declare.living-future.org/search?query=rockwool>

Imperative 11: Embodied Carbon Footprint

ROCKWOOL™ products have undergone a third-party verified, product-specific life cycle assessment (LCA) that can help in analyzing overall product embodied carbon impacts within a Whole Building LCA. ROCKWOOL's UL Environment certified, cradle-to-grave Environmental Product Declarations (EPDs) are EN 15804 and ISO 14025 compliant, and are available for download at

<https://www.rockwool.com/about/sustainability/certifications-and-listings/#epd>

Imperative 12: Responsible Industry

ROCKWOOL's collection of Red List Approved and Red List Free Declare labels can help project teams meet the Responsible Industry Imperative requirements to source one Declare product for every 500 square meters of gross building area. These labels are available for download at

<https://declare.living-future.org/search?query=rockwool>

Imperative 13: Living Economy Sourcing

ROCKWOOL™ products are manufactured in Marshall County, Mississippi, USA; Grand Forks, British Columbia, Canada; and Milton, Ontario, Canada. For projects with construction sites located within 500-5000 kilometers of these facilities, ROCKWOOL™ can help project teams meet the materials construction budget requirements of the Living Economy Sourcing Imperative.



LBC 4.0

Energy Petal

Imperative 07: Energy + Carbon Reduction

A properly constructed and well insulated building envelope utilizing the long-lasting high performance of ROCKWOOL™ thermal insulation products can assist your project team in achieving the required energy performance. ROCKWOOL™ products also have third-party verified, product-specific life cycle assessments (LCAs) that can be used when analyzing overall product impacts within a Whole Building LCA to help meet the requirements of the Energy + Carbon Reduction Imperative. ROCKWOOL's UL Environment certified, cradle-to-grave Environmental Product Declarations (EPDs) are EN 15804 and ISO 14025 compliant, and are available for download at

<https://www.rockwool.com/about/sustainability/certifications-and-listings/#epd>

Imperative 08: Net Positive Carbon

ROCKWOOL™ products have undergone a third-party verified, product-specific life cycle assessment (LCA) that can help in analyzing overall product embodied carbon impacts within a Whole Building LCA. ROCKWOOL's UL Environment certified, cradle-to-grave Environmental Product Declarations (EPDs) are EN 15804 and ISO 14025 compliant, and are available for download at

<https://www.rockwool.com/about/sustainability/certifications-and-listings/#epd>

Health + Happiness Petal

Imperative 10: Healthy Interior Performance

ROCKWOOL's AFB®, AFB® evo, COMFORTBATT®, CURTAINROCK®, CURTAINROCK® 40/80, ROXUL SAFE™ and SAFE'n'SOUND® have been awarded UL Environment's GREENGUARD Gold Certification for low-emitting products, meaning they meet the limits set by CDPH Standard Method v1.2-2017 (using a classroom environment).

Furthermore, ROCKWOOL™ has several exterior and multipurpose insulation products that have also been certified by UL Environment to be compliant with CDPH Standard Method v1.2-2017. A full list of compliant products is available for download at

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Materials Petal

Imperative 12: Responsible Materials

ROCKWOOL's AFB, CAVITYROCK®, COMFORTBOARD®, COMFORTBATT®, CURTAINROCK®, CURTAINROCK® 40/80, FRONTROCK®, ROCKBOARD®, ROXUL SAFE™ and SAFE'n'SOUND® have achieved LBC Red List Approved, and ROCKWOOL AFB® evo has achieved LBC Red List Free Declare labels, which can help project teams meet

the Responsible Materials Imperative requirements to source one Declare product for every 200 square meters of gross building area, or project area. These labels are available for download at

<https://declare.living-future.org/search?query=rockwool>.

Further, ROCKWOOL™ products are manufactured in Marshall County, Mississippi, USA, Grand Forks, British Columbia, Canada, and Milton, Ontario, Canada. For projects with construction sites located within 500 kilometers of these facilities, ROCKWOOL can help project teams meet the materials construction budget requirements of the Responsible Materials Imperative.

Imperative 13: Red List

ROCKWOOL's collection of Red List Approved and Red List Free Declare labels can help project teams meet the Red List Imperative requirements. These labels are available for download at

<https://declare.living-future.org/search?query=rockwool>

Imperative 14: Responsible Sourcing

ROCKWOOL's collection of Red List Approved and Red List Free Declare labels can help project teams meet the Responsible Industry Imperative requirements to source one Declare product for every 200 square meters of gross building area, or project area. These labels are available for download at

<https://declare.living-future.org/search?query=rockwool>

Imperative 15: Living Economy Sourcing

ROCKWOOL products are manufactured in Marshall County, Mississippi, USA, Grand Forks, British Columbia, Canada, and Milton, Ontario, Canada. For projects with construction sites located within 500-5000 kilometers of these facilities, ROCKWOOL can help project teams meet the materials construction budget requirements of the Responsible Materials Imperative.



At the ROCKWOOL Group, we are committed to enriching the lives of everyone who comes into contact with our solutions. Our expertise is perfectly suited to tackle many of today's biggest sustainability and development challenges, from energy consumption and noise pollution to fire resilience, water scarcity and flooding. Our range of products reflects the diversity of the world's needs, while supporting our stakeholders in reducing their own carbon footprint.

Stone wool is a versatile material and forms the basis of all our businesses. With more than 11,000 employees in 39 countries, we are the world leader in stone wool solutions, from building insulation to acoustic ceilings, external cladding systems to horticultural solutions, engineered fibres for industrial use to insulation for the process industry and marine and offshore.

AFB®, CAVITYROCK®, Comfortbatt®, CONROCK®, CURTAINROCK®, ROCKBOARD®, TOPROCK®, MONOBOARD®, ROXUL® are registered trademarks of the ROCKWOOL Group in USA and ROXUL Inc. in Canada.

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