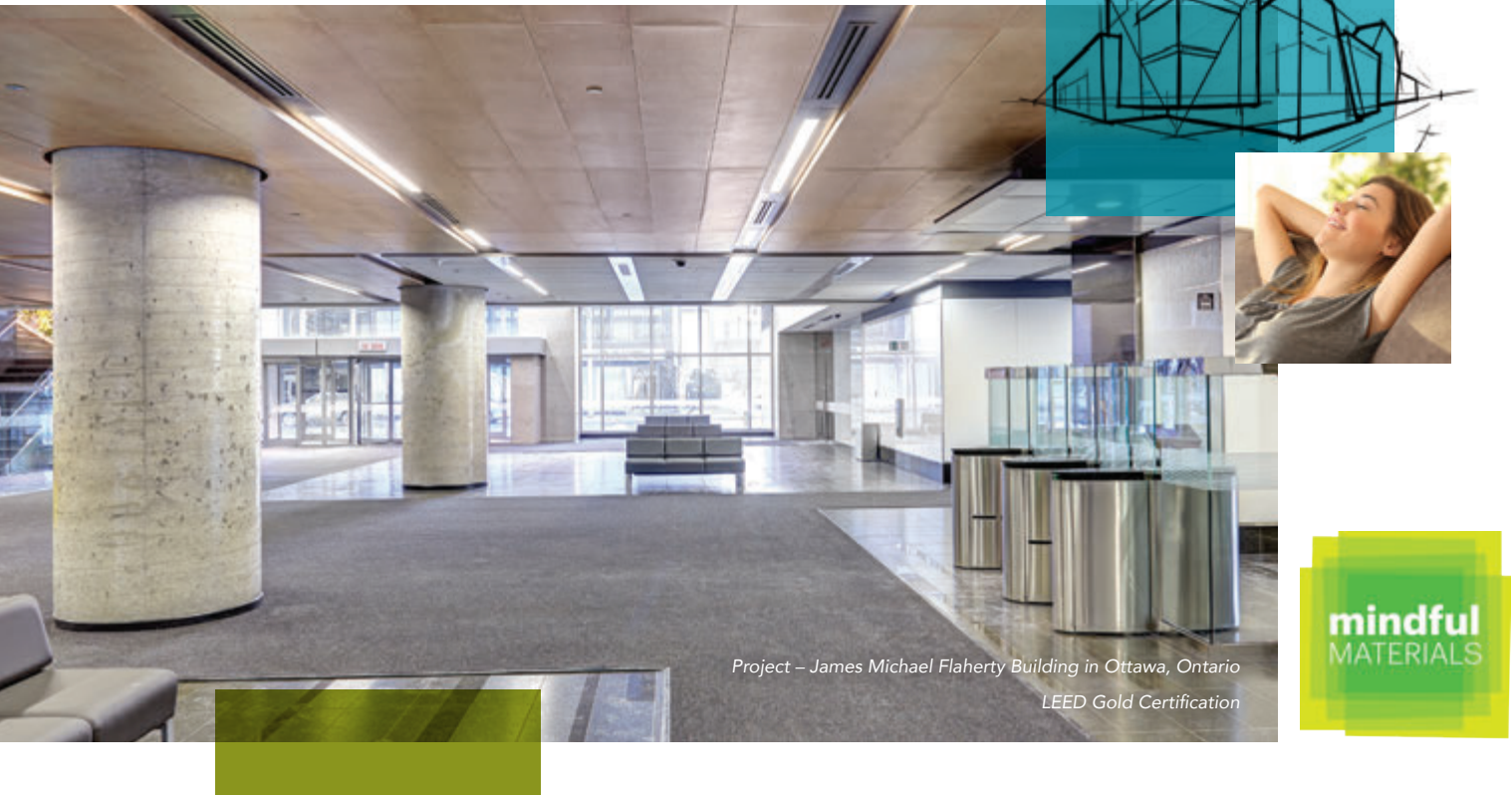


Rockfon® LEED® v4 Solutions Guide

The Right Choice for Creating Sustainable
Buildings and Pursuing LEED Certification



Project – James Michael Flaherty Building in Ottawa, Ontario
LEED Gold Certification

LEED® V4 HIGHLIGHTS

Materials and Resources (MR)

- Construction & Demolition Waste Management Planning ✓
- Interiors Life Cycle Impact Reduction – Designed for Flexibility ✓
- Building Product Disclosure and Optimization – Environmental Product Declarations ✓
- Building Product Disclosure and Optimization – Sourcing of Raw Materials ✓
- Building Product Disclosure and Optimization – Material Ingredients ✓
- Construction and Demolition Waste Management ✓

Indoor Environmental Quality (EQ)

- Low-Emitting Materials ✓
- Interior Lighting ✓
- Acoustic Performance ✓

Rockfon is the world leader in stone wool ceiling 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

Rockfon acoustic ceiling products not only help in creating sustainable buildings; they are also made from a naturally fire-safe and durable material with no added flame retardants or biocides.

Rock: A Natural Resource

Rockfon acoustic ceiling panels are made from stone wool – consisting of a blend of naturally occurring, volcanic basalt rock. This stone is a plentiful, natural resource in itself, but just as importantly our high-tech production process ensures that all our ceiling products are produced in an environmentally responsible way.

Creating Sustainable Buildings

The LEED v4 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. The LEED process is designed to inspire innovative solutions that support healthy, highly efficient and cost-efficient green buildings during the design, construction, operation and maintenance of these high-performance structures.

Rockfon acoustic ceilings are the right choice for sustainable buildings and pursuing LEED v4 points for building interiors.

*Project – Rockfon/ROCKWOOL North American offices in Milton, Ontario
LEED Gold Certification*



*Project – Metro Toronto Convention Centre in Toronto, Ontario
LEED Certification*

Materials & Resources

Construction & Demolition Waste Management and Waste Management Planning

Rockfon and the ROCKWOOL Group are dedicated to reducing construction waste sent to landfill.

Step one of a closed-loop recycling offering in North America was taken in 2017 with the opening of our own U.S.-based factory. As production is ramped up and our ceiling tiles are replaced, we will actively be investigating sustainable solutions for end-of-life recycling of our stone wool panels.

Planning your ceiling installation can reduce the installation waste. Average waste generation with 5% installation waste: 0.02 – 0.13 lbs./sq. ft.

Rockfon metal waste can be recycled in existing recycling schemes.

Interiors Life Cycle Impact Reduction – Designed for Flexibility

Rockfon's modular design is a natural fit with increased building flexibility and ease of adaptive use over the life of the structure.

Whether you wish to move your partition walls or install extra cables above the suspended ceiling, we can deliver flexible and demountable solutions that fit your need for adaptable environments.

Building Product Disclosure and Optimization – Environmental Product Declarations

Rockfon can provide you with third-party, UL-certified, industry-wide, cradle-to-grave Environmental Product Declarations (EPDs) according to ISO 14025 and ISO 14044. These are available for download at www.rockfon.com.

Building Product Disclosure and Optimization – Sourcing of Raw Materials

The Rockfon Code of Conduct for Suppliers addresses topics such as equal opportunities, trade union recognition, fair employment terms and the abolition of child labor. This document must be signed by all of our major suppliers including, but not limited to, suppliers of raw materials and equipment for repair, maintenance, operations as well as suppliers with whom we spend more than U.S. \$100,000. Currently, 75% of our key suppliers have already signed the Code of Conduct.

The Rockfon procurement policy provides opportunity to engage with our suppliers on social and ethical topics, and implies that high-risk suppliers will be audited against our Code of Conduct. Rockfon has adopted the ICC Business Charter for Sustainable Development – Principles for Environmental Management, where our suppliers also are required to ensure their own suppliers meet the same standards. Our commitment is documented through our corporate governance published in the ROCKWOOL Group Annual Report as well as the ROCKWOOL Group Sustainability Report, which is self-declared and follows the Global Reporting Initiative (GRI) Sustainability Report CSR framework (GRI G4). Download the newest CSR report on www.rockfon.com.

Building Product Disclosure and Optimization – Material Ingredients

All Rockfon products sourced from our European plants are screened according to the following materials (general cut off concentration 100 ppm):

- Substances listed in Annex XIV and Annex XVII of REACH regulation No. 1907/2006
- Added biocides/pesticides
- Flame retardants
- Metals and heavy metals
- Azodyes, nitrosamines and aromatic amines
- Halogenated compounds
- Nanomaterial, perfume/odorizers, phthalates, PAHs, glycols, (DEGME, DEGBE, etc.), surfactants (LAS, APEO, DTDMAC, DSDMAC, DHTMAC, etc.), respirable silica, boron compounds, dioxins and furans, siloxanes, organic solvents and 2,4,6 Tri-tert-butyl phenol
- Classified substances according to GHS/CLP (1272/2008) $\geq 0.01\%$ (all classifications are in scope)
- Added formaldehyde
- Volatile Organic Compounds (VOC) content (wet applied materials)

The resin-bonded, mineral wool core utilizes a common urea-formaldehyde binder. Applying ISO test methods, the content of formaldehyde in the mineral wool core has been found to be $<0.002\%$.

$\leq 43\%$

The average recycled content of the stone wool core is up to 43%, depending on production site and product.

Indoor Environmental Quality (EQ)

Low-Emitting Materials

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.

Our metal ceilings have no reportable VOC emissions and our entire portfolio of stone wool ceiling products has been UL® Environment's GreenGuard Gold Certified for low-emitting products.

Interior Lighting

Rockfon can deliver a number of ceiling solutions with a light reflectance of 85% or above.

Better distribution of natural light within interior spaces can help building owners to lower electric lighting loads and reduce cooling costs, saving both energy and associated costs.

By choosing ceilings with the right light reflectance, Rockfon promotes occupants' productivity, comfort, and well-being.

Acoustic Performance

LEED does not set up specific requirements for acoustic materials. Therefore, it is up to the design team to choose constructions and materials that can assist in creating an optimized acoustic environment that is both dynamic and invites communication, while respecting privacy and the need for concentration or relaxation.

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



Project – Environmental Science & Chemistry Building, University of Toronto Scarborough in Toronto, Ontario

LEED Gold Certification

Rockfon Products for LEED v4

Rockfon® Products

| | | Materials & Resources (MR) | | | | | | Indoor Environmental Quality (EQ) | | |
|--|--|--|---|---|---|---|--|-----------------------------------|---------------------------------------|----------------------------|
| | | Construction & Demolition Waste Management and Planning (Material Recycling) | Building Product Disclosure and Optimization – Environmental Product Declarations | Building Product Disclosure and Optimization – Sourcing of Raw Materials (Self-Declared CSR Report) | Building Product Disclosure and Optimization – Sourcing of Raw Materials (Recycled Content) | Building Product Disclosure and Optimization – Material Ingredients | Interior Life Cycle Impact Reduction – Designed for Flexibility (Healthcare) | Low-Emitting Materials | Interior Lighting (Light Reflectance) | Acoustic Performance (NRC) |
| Tile Products: Low-Emitting, GreenGuard Gold Certified | Basic White | | | | | | | | | |
| | Rockfon® Pacific™ | - | ✓ | ✓ | up to 37% | ✓ | ✓ | ✓ | 0.85 | 0.60** |
| | Rockfon Artic® | - | ✓ | ✓ | up to 37% | ✓ | ✓ | ✓ | 0.85 | 0.75** |
| | Core White | | | | | | | | | |
| | Rockfon Tropic® | - | ✓ | ✓ | up to 37% | ✓ | ✓ | ✓* | 0.86 | 0.85 - 0.90** |
| | Rockfon® Koral™ | - | ✓ | ✓ | up to 33% | ✓ | ✓ | ✓* | 0.86 | 0.85** |
| | Design White | | | | | | | | | |
| | Rockfon Sonar® | - | ✓ | ✓ | up to 40% | ✓ | ✓ | ✓* | 0.85 | 0.70 - 0.95** |
| | Rockfon Sonar® Activity | - | ✓ | ✓ | up to 41% | ✓ | ✓ | ✓* | 0.85 | 0.90** |
| | Rockfon Alaska® | - | ✓ | ✓ | up to 40% | ✓ | ✓ | ✓* | 0.86 | 0.70 - 0.90** |
| | Special Applications | | | | | | | | | |
| | Rockfon® Hygienic Plus™ | - | ✓ | ✓ | up to 36% | ✓ | ✓ | ✓* | 0.83 | 0.90** |
| | Rockfon® Medical™ Standard | - | ✓ | ✓ | up to 33% | ✓ | ✓ | ✓* | 0.86 | 0.90** |
| | Rockfon® Medical™ Plus | - | ✓ | ✓ | up to 37% | ✓ | ✓ | ✓* | 0.83 | 0.90** |
| | Rockfon® Medical™ Air | - | ✓ | ✓ | up to 36% | ✓ | ✓ | ✓* | 0.83 | 0.85** |
| | Rockfon® Impact™ | - | ✓ | ✓ | up to 34% | ✓ | ✓ | ✓* | 0.86 | 0.85** |
| | Rockfon® Industrial™ Opal | - | ✓ | ✓ | up to 42% | ✓ | ✓ | ✓* | 0.64 | 1.05** |
| | Rockfon® Industrial™ Nature | - | ✓ | ✓ | up to 43% | ✓ | ✓ | ✓* | 0.40 | 1.05** |
| | Rockfon® Industrial™ Black | - | ✓ | ✓ | up to 43% | ✓ | ✓ | ✓* | 0.64 | 1.05** |
| | Rockfon® Plenum Barrier Board | - | ✓ | ✓ | up to 40% | ✓ | ✓ | ✓* | - | - |
| Rockfon® Facett™ | - | ✓ | ✓ | up to 41% | ✓ | ✓ | ✓* | 0.68 | 1.00** | |
| Metal products: No-Emitting Materials, Manufacturer-tested | Standard Systems | | | | | | | | | |
| | Chicago Metallic® 15/16" Exposed | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - |
| | Chicago Metallic® 9/16" Tempra™ Exposed | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - |
| | Chicago Metallic® 9/16" Ultraline™ Exposed | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - |
| | Chicago Metallic® 9/16" Integrity™ Exposed | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - |
| | Drywall Systems | | | | | | | | | |
| | Chicago Metallic® Flat Drywall | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - |
| | Chicago Metallic® Radius Drywall | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - |
| | Chicago Metallic® Spanfast® Drywall | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - |
| | Special Applications | | | | | | | | | |
| | Chicago Metallic® Aluminum Cap Exposed | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - |
| | Chicago Metallic® All Aluminum Exposed | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - |
| Chicago Metallic® Barriergrid® Standard/Premium Exposed | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - | |
| Chicago Metallic® G90 Exterior Exposed | ✓ | - | ✓ | up to 25% | - | ✓ | ✓* | - | - | |

* Manufactures self-declared certificate.

** NRC values are dependent on perforation patterns, plenum depth and acoustic backer options.

Rockfon® Products

| | | Materials & Resources (MR) | | | | | Indoor Environmental Quality (EQ) | | | |
|---|--|--|---|---|---|---|--|------------------------|---------------------------------------|----------------------------|
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| Acoustic Metal Ceiling Systems | Perimeter Trim | | | | | | | | | |
| | Rockfon® Infinity™ Perimeter Trim | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | – |
| | Linear Metal Panels | | | | | | | | | |
| | Rockfon® Planar® Linear Ceilings | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | up to 0.90** |
| | Metal Panels and Planks | | | | | | | | | |
| | Rockfon® Planostile™ Metal Ceiling Panel | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | up to 0.90** |
| | Rockfon® Spanair® Metal Panel | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | up to 0.90** |
| | Rockfon® Traditions™ | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | – |
| | Curved Metal Panels | | | | | | | | | |
| | Rockfon® Curvgrid™ Curved Ceiling System Panels | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | up to 0.90** |
| | Metal Baffles | | | | | | | | | |
| | Rockfon® Intaline™ Metal Baffle | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | – |
| | Open Plenum Systems | | | | | | | | | |
| | Rockfon® Beamgrid® Open Plenum Ceiling System | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | – |
| | Rockfon® Cubegrid® Open Plenum 15/16" Ceiling System | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | – |
| | Rockfon® Graphgrid® Open Plenum Wire Panel | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | – |
| | Rockfon® Magna T-cell™ Open Plenum Ceiling System | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | – |
| Rockfon® Metalscapes® Wire Mesh Panels | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | – | |
| Metal Security Systems | | | | | | | | | | |
| Rockfon® Metaline™ Lock-in Acoustical Security Ceiling System | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | up to 0.90** | |
| Rockfon® Securline® Plank Acoustical Security Ceiling System | ✓ | ✓ | ✓ | up to 85% | – | ✓ | ✓* | – | up to 0.90** | |

* Manufactures self-declared certificate.

** NRC values are dependent on perforation patterns, plenum depth and acoustical backer options.

Rockfon North American Production Facilities

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



Chicago, Illinois

Centrally located to best serve your project needs from coast to coast, our North American headquarters are based in Chicago. Drawing from more than 50 years of success in Europe, we have operated in North America since 2013. Chicago Metallic® suspension systems, acquired in 2013, have been produced in the U.S. for decades. Today, all of our products made here now meet the American Recovery and Reinvestment Act’s Buy American Provisions.

Marshall County, Mississippi

In 2017, our first North American acoustic ceiling manufacturing facility opened in Marshall County, Mississippi; approximately 30 miles south of Memphis, Tennessee. Now in full production, our local team manufactures Rockfon acoustic stone wool ceiling products to our precise, high-quality specifications and standards. Reduced lead times, as well as a comprehensive inventory program maintained in our strategically located U.S. warehouses, offer increased service levels to our customers.

Baltimore, Maryland

In both Baltimore and Chicago, we manufacture our specialty metal ceiling panels and Chicago Metallic suspension systems. Our complete ceiling systems offer a breadth of high-quality solutions to help you create safe, healthy, sustainable, comfortable and beautiful buildings.



For information on how Rockfon products and resource-efficient solutions support sustainable design strategies, or for assistance with your calculations, contact one of our Technical Specialists at techservices@rockfon.com, call **1-800-323-7164** or visit www.rockfon.com.

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Rockfon

4849 S. Austin Ave.
Chicago, IL 60638 USA

Tel. +1-800-323-7164
Fax. +1-800-222-3744
www.rockfon.com
360003664

