

Paroc products in BREEAM certification

New Construction 2016 and Version 6 (NC) & Non-Domestic Refurbishment 2015 (RFO)



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PREFACE

This document is an assessment of the compliance of Paroc products with BREEAM environmental rating system requirements. The aim is to present the environmental qualities of Paroc products as well as highlight the essential Paroc sustainable best practices. The features have been presented in a way that contributes to meeting the requirements of global environmental certifications.

This document applies to all Paroc products produced in Sweden, Finland, Lithuania and Poland.

The following environmental rating systems for buildings are assessed:

- BREEAM International New Construction 2016 (NC 2016)
- BREEAM International New Construction Version 6 (NC v6)
- BREEAM International Refurbishment and Fit-Out 2015 (RFO 2015)

The document focuses on providing information on how well Paroc products follow BREEAM's guidelines in different categories. Especially in categories Materials (MAT 01 & MAT 03), Waste (WST01) and Health and Wellbeing (HEA02). Additionally, Paroc products do have a contribution towards MAT 06 Material efficiency, where the goal is to improve the material efficiency of the building and towards ENE 01 Reduction of energy use and carbon emissions, where the goal is to manage building's CO2 emissions from energy consumption and towards ENE 05 Energy efficient cold storage, where the goal is to reduce greenhouse gas emissions from refrigeration systems and towards HEA 04 Thermal comfort, where the goal is to ensure appropriate thermal comfort levels. Separate documents are not required to prove these categories' requirements.

All the necessary certificates can be found on the Paroc website or be provided upon request via customer service.

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BREEAM New Construction 2016 & v6

Credit	Paroc contribution	Credits
MAT 01 Lice Cycle Impacts	<p>All Paroc's Building Insulation products have a product specific type III EPD. Technical Insulation will have product specific type III EPDs publicly available early 2022 latest. Paroc's products have EPD's per EN 15804. Therefore, using Paroc products may contribute to achieving at least one credit out of 10 exemplary credits.</p>	<p>1 credit</p> <p>Requires four other products with EPD from different manufacturers.</p> <p>1 exemplary credit. Requires 9 other products with EPD from different manufacturers.</p>
MAT 03 Responsible Sourcing of Materials	<p>Paroc has BES 6001 certification (Responsible Sourcing of Construction Products) for supply chain management and ISO 14001 and ISO 9001 certifications for all production sites.</p>	<p>1–3 credits (+ 1 exemplary credit)</p> <p>Achieve ≥ 10 % responsible sourcing points in NC 2016. ISO 14001 is the min. requirement for the products. ≥ 10 % will be achieved when all timber is responsibly sourced and 80 % of the products in the three product groups have been procured responsibly. This is a requirement for one credit.</p> <p>Additional 1-2 points or exemplary credit can be awarded if ≥ 20 % or 36 % or 52 % responsible sourcing points are achieved.</p> <p>Paroc's products belongs to product group "Stone and aggregate".</p>
WST 01 Construction Waste Management	<p>Paroc stone wool is recyclable and can help the constructor to meet their recycling targets. Paroc insulation products fulfil the criteria for the key waste group "insulation". Paroc has a REWOOL® system in place to take back recyclable stone wool.</p>	<p>1 credit</p> <p>If criteria 9–11 is achieved. Paroc contributes to criterion 10.</p> <p>Construction site or demolition waste must be separated into at least five key waste groups.</p>

		Insulation products are considered as one of these key groups. Actual points are awarded based on the final recycling rate of all waste accumulated on-site during the construction or demolition process. REWOOL® system must be used in construction site to contribute to achieve this credit.
HEA 02 Indoor Air Quality	Several Paroc products have the Finnish M1 emission classification which is compliant with the credit requirement. M1 also meets the exemplary level requirement. Paroc also have Eurofins "Indoor Air Comfort GOLD" product certifications for several technical insulation products.	<p>1 credit</p> <p>Requires that criterion 2 is achieved (Indoor air quality plan has been done) and at least four product types meet the emission limits.</p> <p>1 exemplary credit</p> <p>Requires that criterion 2 is achieved and at least four product types meet the stricter emission limits.</p>
ENE04 Low Carbon Design	Paroc has several products for thermal insulation. Their products can improve passive ways to decrease building's energy demand and help to accomplish the requirement of passive design that reduce energy demand.	<p>1 credit</p> <p>Requires that criteria 1-3 is achieved. Paroc's products contributes to criterion 3.</p>

BREEAM Non-Domestic Refurbishment 2015

Credit	Paroc contribution	Credits
MAT 01 Lice Cycle Impacts	<p>All Paroc's Building Insulation products have a product specific type III EPD. Technical Insulation will have product specific type III EPDs publicly available early 2022 latest. Paroc's products have EPD's per EN 15804. Therefore, using Paroc products may contribute to achieving at least one credit out of 10 exemplary credits.</p>	<p>1 credit</p> <p>Requires four other products with EPD from different manufacturers.</p> <p>1 exemplary credit. Requires 9 other products with EPD from different manufacturers.</p>
MAT 03 Responsible Sourcing of Materials	<p>Paroc has BES 6001 certification (Responsible Sourcing of Construction Products) for supply chain management and ISO 14001 and ISO 9001 certifications for all production sites.</p>	<p>1–3 credits (+ 1 exemplary credit)</p> <p>Achieve min. ≥ 18 % responsible sourcing points. ISO 14001 is the minimum requirement. ≥ 18 % achieved when all the timber is responsibly sourced and 80 % of the products in 3 product groups have been procured responsibly.</p> <p>Additional 1-2 points or exemplary credit can be awarded if ≥ 36 % or 54 % or 70 % responsible sourcing points are achieved.</p> <p>Paroc's products belongs to product group "Stone and aggregate".</p>
WST 01 Construction Waste Management	<p>Paroc stone wool is recyclable and can help the constructor to meet their recycling targets. Paroc insulation products fulfill the criteria for the key waste group "insulation". Paroc has a REWOOL® system in place to take back recyclable stone wool.</p>	<p>1 credit</p> <p>If criteria 9–11 is achieved. Paroc contributes to criterion 10.</p> <p>Construction site or demolition waste must be separated into at least five key waste groups. Insulation products are considered as one of these key</p>

		groups. Actual points are awarded based on the final recycling rate of all waste accumulated on-site during the construction or demolition process. REWOOL® system must be used in construction site to contribute to achieve this credit.
HEA 02 Indoor Air Quality	<p>Several Paroc products have the Finnish M1 emission classification which is compliant with the credit requirement. M1 also meets the exemplary level requirement.</p>	<p>1-2 exemplary credits</p> <p>Requires that criterion 8 is achieved and 7 tabulated product groups meets the emission level requirements. Product groups' product can contain max. 0,06 mg/m³ B-F formaldehyde. 2 credits are achieved when the content is 0,01 mg/m³.</p>
ENE 04 Low Carbon Design	<p>Paroc has several products for thermal insulation. Their products can improve passive ways to decrease building's energy demand and help to accomplish the requirement of passive design that reduce energy demand.</p>	<p>1 credit</p> <p>Requires that criteria 1-3 is achieved. Paroc's products contributes to criterion 3.</p>

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Materials

MAT 01 LIFE CYCLE IMPACTS

Paroc practices in brief

- EPD's according to **ISO 14025, ISO 21930** and **EN 15804**
- EPDs contain information on the **CO₂, CFC-11, SO₂, phosphate and ethene (C₂H₄)** emissions

BREEAM INTERNATIONAL NC 2016 & RFO 2015

Paroc contribution

All Paroc's Building Insulation products have a product specific type III EPD. Technical Insulation will have product specific type III EPDs publicly available early 2022 latest.

Paroc's products have EPD's per EN 15804. Therefore, using Paroc products may contribute to achieving at least one credit out of 10 exemplary credits.

Assessment

One credit can be achieved if at least 5 products used in the building construction have an EPD that is in accordance with either ISO 14025, ISO 21930 or EN 15804. A maximum of 2 EPDs per product group may be included in the calculations.

The exemplary level credit can be achieved when the Mat01 calculator has been completed and at least 10 products used in the building construction are in accordance with at least one of the before mentioned standards. Again, a maximum of 2 EPDs per product group may be included in the calculations.

Documents

Product specific EPDs from company's website

PAROC PRACTICES IN DETAIL

- Paroc EPDs for Finland and Sweden follow the ISO 14025, ISO 21930 and EN 15804 standards. They include all products produced in the Finnish and Swedish factories and that have no facing or other features other than stone wool on them. The EPDs have been based on the density of the products (products with a density of less than 70 kg/m³, 70–120 kg/m³ and more than 120 kg/m³).
- Paroc also has three international EPDs that cover all production plants in Finland, Sweden, Poland and Lithuania. These EPD's also cover products with no facing and have been divided into three groups based on the same density categories as the Finland and Sweden specific EPD's. There are international EPD's for products with an average density of 35 kg/m³, 93 kg/m³ and 144 kg/m³ which are equivalent with the less than 70 kg/m³, 70–120 kg/m³ and more than 120 kg/m³ categories. These EPDs are self-declarations done in accordance with the EN 15804 standard.
- EPDs are in accordance with the ISO 21930 standard with information on the amounts of emissions in the following categories:
 - CO₂-e
 - CFC-11 eq
 - SO₂e
 - Phosphate
 - Ethene (C₂H₄)
- Paroc is currently working on EPDs that follow ISO 14025, ISO 14040 and ISO 14044 as well as ISO 21930 and EN 15804 standards for all its products including both products with and without various coatings in all factories all over Europe.

MAT 03 RESPONSIBLE SOURCING OF CONSTRUCTION PRODUCTS

Paroc practices in brief

- **Self-reporting according to GRI** (Global Reporting Initiative) guidelines
- **BES 6001 certification** (Responsible Sourcing of Construction Products) for supply chain management
- **REWOOL®** system for Extended Producer Responsibility (EPR)
- **ISO 14001 and ISO 9001** certifications for all production sites

BREEAM INTERNATIONAL NC 2016 & RFO 2015

Paroc contribution	BES 6001 certification secures 5 points in the "Mat 03 Responsible Sourcing of Materials" calculator which is the best possible rating for new materials.
Assessment	<p>The credit requires products with a responsible supply chain to be used in the construction. With the BES 6001 certification, Paroc products earn 5 point scores in the "Mat 03 Responsible Sourcing of Materials" calculator. Only reusing structures entirely could earn the project a higher point score.</p> <p>Proving compliance with ISO 14001 is another option. As the BES 6001 provides a higher score in the Mat 03 Calculator (5 points) than ISO 14001 (1 point or 2 points if the producers of the main ingredients also have the ISO 14001), compliance path using BES 6001 is recommended.</p> <p>The minimum requirement for this credit is achieve $\geq 10\%$ responsible sourcing points in NC 2016 and $\geq 18\%$ in RFO 2015. ISO 14001 is the minimum requirement for the products. $\geq 10\%$ will be achieved when all of the timber is responsibly sourced and 80% of the products in the three product groups have been procured responsibly. Paroc's products belong to product group "Stone and aggregate".</p> <p>In NC system additional 1-2 points or exemplary credit can be awarded if $\geq 20\%$ or 36% or 54% responsible sourcing points are achieved.</p> <p>In RFO system additional 1-2 points or exemplary credit can be awarded if $\geq 36\%$ or 54% or 70% responsible sourcing points are achieved.</p>
Documents	<p>BES 6001 -certification document from company's website</p> <p>ISO 14001 -certification document from company's website</p> <p>Owens Corning Sustainability Report from company's website</p> <p>REWOOL® information from company's website</p> <p>Recycled content document given upon request</p>

PAROC PRACTICES IN DETAIL

- When it comes to corporate sustainability reporting (CSR), Paroc does self-reporting and follows the guidelines of GRI (Global Reporting Initiative) providing information on the company's sustainable practices and principles. The report is verified by SCS Global Services according to AccountAbility's AA1000 Principles.
- To control the sustainability of the entire product supply chain, Paroc has a BES 6001 certification (Responsible Sourcing of Construction Products) with a performance rating "Pass". All raw material suppliers and sub-producers are included in the reporting scope. Paroc has a "Code of Conduct for Suppliers and Subcontractors" based on the BES 6001 standard requirements. The BES 6001 certification includes all Paroc stone wool production sites in Sweden, Finland, Lithuania and Poland.
- In order to minimize environmental impacts and the amount of stone wool ending up in landfills from construction sites, Paroc also has created an Extended Producer Responsibility (EPR) system called REWOOL®. In short, Paroc takes back pure and recyclable excess stone wool from construction sites which is then directed back to the Paroc production line and used to produce new Paroc products.
- All Paroc factories and management all over Europe including the factories in Finland, Sweden, Lithuania and Poland, are both ISO 14001 and ISO 9001 certified.

Waste

WST 01 CONSTRUCTION WASTE MANAGEMENT

Paroc practices in brief

- The Paroc stone wool products are **recyclable**
- Paroc has the **REWOOL® system in Finland and Sweden** (available for Paroc customers)

BREEAM INTERNATIONAL NC 2016 & RFO 2015

Paroc contribution	Paroc stone wool is recyclable and can help the constructor to meet their recycling targets. Paroc insulation products fulfil the criteria for the key waste group "insulation". Paroc has a REWOOL® system in place to take back recyclable stone wool.
Assessment	Construction site or demolition waste has to be separated into at least five key waste groups. Insulation products are considered as one of these key groups. Actual points are awarded based on the final recycling rate of all waste accumulated on-site during the construction or demolition process. REWOOL® system must be used in construction site to contribute to achieve this credit.
Documents	REWOOL® information from company's website Recycled content document given upon request

PAROC PRACTICES IN DETAIL

- The stone wool products can be reused. Waste from newly produced stone wool can be reused on the site. It can, for example, be used as a base layer when insulating attic floors before a blowing wool installation is carried out or by being turned into blowing wool.
- Paroc has a REWOOL® system in place to collect recyclable stone wool from construction sites. The goal is to maximize the amount of stone wool that can be recycled. With the REWOOL® system, surplus insulation is recycled and turned into new stone wool insulation, instead of being disposed of as waste. The REWOOL® system involves the collection and transport of waste wool to produce new stone wool. A small fee is charged for collecting the waste wool, as well as for transport costs, thus avoiding the need for landfill disposal.

Health and Wellbeing

HEA 02 INDOOR AIR QUALITY

Paroc practices in brief

- Finnish M1 classifications for nearly all products
- Eurofins "Indoor Air Comfort GOLD" product certifications for several technical insulation products

BREEAM INTERNATIONAL NC 2016

Paroc contribution	Several Paroc products have the Finnish M1 emission classification which is compliant with the credit requirement. M1 meets also the exemplary level requirement.
Assessment	Ceiling, wall, and acoustic and thermal insulation materials must fulfil the following criteria: <ul style="list-style-type: none">- Formaldehyde max. 0.06 mg/m³- TVOC (total volatile organic compounds) max 1.0 mg/m³- 1A and 1B carcinogens max 0.001 mg/m³ The Finnish M1 emission classification fulfils the criteria listed above.
Documents	<ul style="list-style-type: none">- M1 classifications: http://m1.rts.fi/en/- M1 classifications also available on company's website- Indoor Air Comfort GOLD certifications from company's website

BREEAM INTERNATIONAL RFO 2015

Paroc contribution

Several Paroc products have the Finnish M1 emission classification which is compliant with the credit requirement. M1 meets also the exemplary level requirement.

The Paroc products contribute to low VOC and formaldehyde levels in the overall indoor air since the products have the M1 certifications and include no added formaldehyde.

Assessment

Suspended ceiling tiles must fulfil the following criteria:

- Formaldehyde E1 class
- Formaldehyde level of 0.1 mg/m³

The Finnish M1 emission classification fulfils the criteria listed above.

Documents

- M1 classifications: <http://m1.rts.fi/en/>
 - M1 classifications also available on company's website
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PAROC PRACTICES IN DETAIL

- Several Paroc products have a Finnish M1 emission (version 22.11.2015) classification. A list of Paroc products with a M1 classification can be found on the Finnish Rakennustieto website at <http://m1.rts.fi/en/>.

Energy

ENE 04 LOW CARBON DESIGN

Paroc practices in brief

- Paroc's insulation products can improve passive ways to decrease building's energy demand

BREEAM INTERNATIONAL NC 2016 & RFO 2015

Paroc contribution	Paroc has several products for thermal insulation. Their products can improve passive ways to decrease building's energy demand and help to accomplish the requirement of passive design that reduce energy demand.
Assessment	<p>The possibilities of implementing design solutions that reduce the energy demand of a building are identified.</p> <p>The building uses passive design measures to reduce the overall building energy demand, primary energy consumption or CO₂ emissions by at least 5 %, in line with the findings of the passive design analysis.</p>
Documents	No documents needed

PAROC PRACTICES IN DETAIL

- Examples of Paroc product's features:
 - Natura Lana: Thermal conductivity: 0,036 W/mK, Thickness: 50, 100, 125, 150 mm
 - eXtra: Thermal conductivity: 0,036 W/mK, Thickness: 30, 45, 50, 66, 70, 100, 125, 150, 175, 200, 225 mm
 - UNM 37: Thermal conductivity: 0,037 W/mK, Thickness: 30 or 50 mm