ENVIRONMENTAL PRODUCT DECLARATION

In accordance with EN 15804:2012+A1

Uni-Mata 38 - 100 mm

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ECO PLATFORM EPD
EN 15804 VERIFIED

ISOVER SAINT-GOBAIN

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General information

This declaration is the type III Environmental Product Declaration (EPD) based on EN 15804:2012+A1 and verified according to ISO 14025 by an external auditor. It contains the information on the impacts of the declared construction materials on the environment. Their aspects were verified by the independent body according to ISO 14025. Basically, a comparison or evaluation of EPD data is possible only if all the compared data were created according to EN 15804:2012+A1 (see point 5.3 of the standard).

Functional unit: 1 m^2 of mineral wool with a thermal resistance of 2.60 m^2K/W (100mm).
Reasons for performing LCA: B2B

Life cycle analysis (LCA): Cradle to grave with A1-A5, B1-B7, C1-C4 and D modules in accordance with EN 15804:2012+A1
The year of preparing the EPD: 2021
Product standards: PN-EN 13162+A1:2015-04
Service Life: 50 years
PCR: ITB-PCR A (PCR based on EN 15804), EN 16783
Representativeness: Saint-Gobain Isover Gliwice (Poland), year 2019

Manufacturer and product description

Product description and description of use:

This Environmental Product Declaration (EPD) describes the environmental impacts of 1 m² of mineral wool with a thermal resistance of 2.60 m²K/W.

The intended use of this EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

The production site of Saint-Gobain Isover Gliwice (Poland) uses natural and abundant raw materials (sand), using fusion and fiberizing techniques to produce glass wool. The products obtained come in the form of a "mineral wool mat" consisting of a soft, airy structure.

On Earth, naturally, the best insulator is dry immobile air at 10°C: its thermal conductivity factor, expressed in λ is 0.025 W/(m·K).The thermal conductivity of mineral wool is close to immobile air as its lambda varies from 0.030 W/(m·K) for the most efficient to 0.040 W/(m·K) to the least.

With its entangled structure, mineral wool is a porous material that traps the air, making it the insulating materials. The porous and elastic structure of the wool also absorbs noise in the air, knocks and offers acoustic correction inside premises. Mineral wool containing incombustible materials does not fuel fire or propagate flames.

Mineral wool insulation (glass wool) is used in buildings as well as industrial facilities. It ensures a level of thermal comfort, lowers energy costs, minimizes carbon dioxide (CO_2) emissions, prevents heat loss through pitched roofs, walls, floors, pipes and boilers, reduces noise pollution and protects homes and industrial facilities from the risk of fire.

Correctly installed glass wool products and solutions do not require maintenance and last throughout the lifetime of the building (which is set at 50 years as a default value in the model), or as long as the insulated building component is a part of the building.

Technical data/physical characteristics:

The thermal resistance of the product equals: 2.60 m²K/W
The thermal conductivity of mineral wool is: 0.038 W/(m.K)
Reaction to fire: A1 (Declaration according to EN 13501-1+A1)
Acoustic properties: Level of air flow resistivity ≥5 (kPa·s·m-2)

During the life cycle of the product any hazardous substance listed in the "Candidate List of Substances of Very High Concern (SVHC) for authorization[1]" has been used in a percentage higher than 0.1% of the weight of the product.

[1] http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Figure 1. A scheme of manufacturing process of the glass wool.

A production process (Figure 1) has seven stages: (BATCH - 1): Glass wool is made mainly of sand, soda-ash, limestone and recycled glass; stored in silos, they are weighed, mixed and poured into a furnace. (MELTING - 2) The mixture is then melted at a temperature exceeding 1,400°C in an electric or gas furnace. (FIBERIZING - 3) The liquid glass passes via a feeder to a fiberizing machine, where it is propelled through tiny holes by a centrifugal spinner - creating the fibers. These are sprayed with a binder and shaped into a blanket. A facing can eventually be glued to the blanket, using binder as a glue. (FORMING - 4) Then the blanket passes through a curing oven. During this process, the blanket can be compressed to achieve its final thickness. (CUTTING - 5) The blanket is then cut to the required width. Off-cuts are recycled. A facing can eventually be glued to the blanket.(PACKAGING - 6) The end of the line is generally equipped with a rolling machine for mats and a stacking machine for boards. (PALLETIZATION - 7) The glass wool can be compressed to up to a tenth of its volume.
All detailed technical documentation of product can be found at www.isover.pl.

LCA Life Cycle Assessment – general rules applied

The LCA for this EPD is conducted according to the guidelines of ISO 14040-44, the requirements given in the Product Category Rules (ITB PCR-A), EN 16783, EN 15804:2012+A1 Sustainability of Construction Works: Environmental Product Declarations and the general program guidelines by ITB EPD system. As on the day of issuing the declaration, the transition period for the implementation of the EN 15804 + A2 standard applies, therefore ITB partially does it best to implement the new provisions of Annex 2. The LCI inventory (verified) for the LCA study is based on the year 2019. Production figures for Isover glass wool and detailed information from production plant were collected by manufacturer in LCI questionnaire. This LCA was modelled with ITB software using the latest version of the Ecoinvent v.3.7. database and impact models. The EPD, its background data and the results may be used for business-to-business communications and is expected to be a reliable document for green building designers, architectures, manufacturers of construction products and the other stakeholders in the construction sector to understand the potential environmental impacts caused by glass wool product.

Unit

The declared unit is 1 m² of mineral wool with a thermal resistance of 2.60 m^2K/W (100 mm).

System boundary

Type of EPD: cradle to grave. The life cycle analysis of the declared products covers "Product Stage" A1-A5, use stage B1-B7 and End of Life stage C1, C2, C3, C4 and gains beyond system in D module (Cradle to Grave) accordance with EN 15804:2012+A1 and ITB PCR A. The system boundary covers the production of raw materials, all relevant transport down to factory gate and manufacturing by Isover (cradle to gate). The review framework comprises the following details:
• Raw materials acquisition and transport,
• Further processing of raw (and recycled content) materials,
• Production operations (7 stages, as Figure 1 presented)
• Energy and water consumption, waste management.
Modules A1-A5 include processes that provide materials and energy input for the system, manufacturing and transport processes up to the installation, as well as waste processing. Module C1 considers energy supply for the deconstruction. Module C2 includes transportation of the postconsumer waste to waste destination place. End of life scenarios are declared for one scenarios (100% landfill). Module D includes potential benefits from all net flows given in module A1 and C3 that leave the product boundary system after having passed the end-of-waste state in the form of recovery and/or recycling potentials.

Allocation

Production of the glass wool products is a line process in one manufacturing plant located at Gliwice (Poland). The allocation of all the air emissions, wastes and energy usage are based on mass (kg). The reason is because Isover uses the exact same manufacturing process shown for every product.
The amount of raw material varies for different products and is accounted for each product case. Allocation of A3 impact is 9.2 % of whole production. The impacts from raw materials extraction/production (dolomite, soda, limestone, sand, feldspar, Borax, EF dust, manganese dioxide, wet waste, external glass cullet, internal glass cullet, resin, technical urea solution, ammonium sulphate, Silan, water ammonia, oil emulsion, glucose binder, silicon, wooden pallet, cardboard spacer, foil, label, glue) are allocated in A1 module of the LCA (not excluding more than 1% of secondary production inputs). The amount of raw material varies for different Isover products and is accounted for this EPD. Raw materials and energy consumption, as well as transport distances have been taken directly from the manufacturing plant of Saint-Gobain Isover Gliwice. Not less than 99% of impacts from a line production were allocated. Module A2 includes transport of all raw materials from their suppliers to manufacturing plant. Municipal wastes of factory were allocated to module A3. Energy supply (Polish electricity mix -based on KOBiZE values 2019) was inventoried for whole factory and allocated to the product assessed A3 while electricity production to A1. Emissions in the factory are assessed using

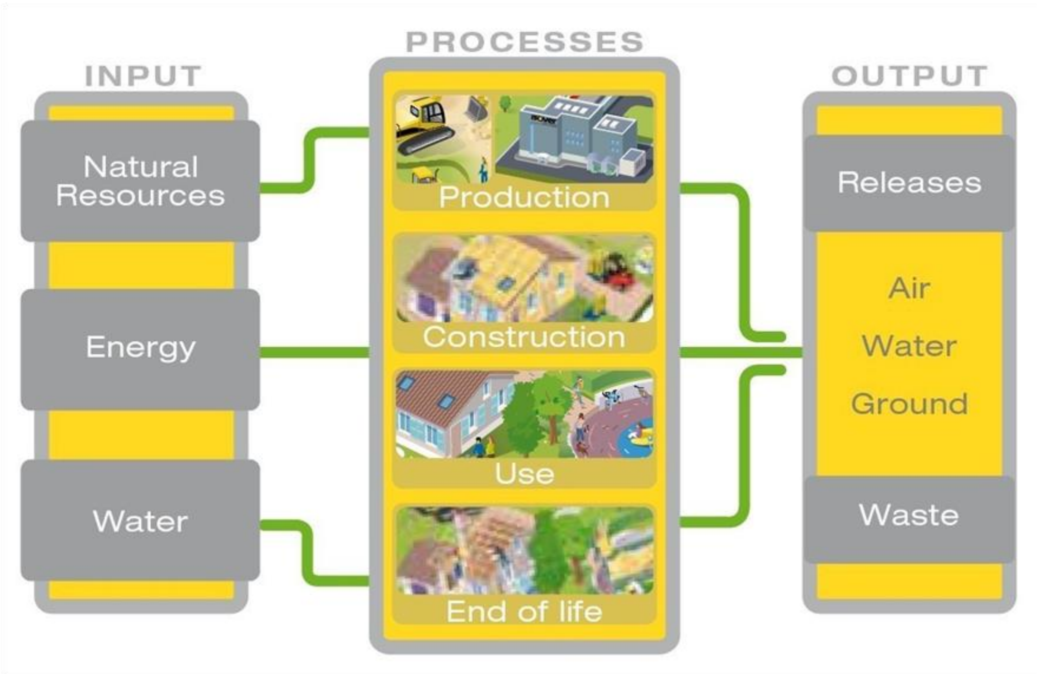
national emission factors for energy carriers (gas) and Polish electricity and were allocated to module A3.

System limits

99.0% input materials and 100 % energy consumption was inventoried in factory and were included in calculation. In the assessment, all significant parameters from gathered production data are considered. It is assumed that the total sum of omitted processes does not exceed 1% of all impact categories. In accordance with EN 15804:2012+A1, machines and facilities (capital goods) required for and during production are excluded, as is transportation of employees. The impact of the production of packaging materials and wooden pallets was taken into account.

Life cycle stages

Figure 2. Flow diagram of the Life Cycle.



Product stage, A1-A3

A1 and A2 Modules: Raw materials supply and transport

Raw materials come mainly from suppliers that environmental data for production (ISO 14001) is published in reports or can be found in a relevant sources (Ecoinvent). Data on transport of the different input products to the manufacturing plants were inventoried in detail as LCI and modelled. Means of transport include trucks. For calculation purposes European fuel averages are applied.

A3: Production

Glass wool is made mainly of sand, soda-ash, limestone and recycled glass; stored in silos, they are weighed, mixed and poured into a furnace. The mixture is then melted at a temperature exceeding 1,400°C in an electric or gas furnace. The liquid glass passes via a feeder to a fiberizing machine, where it is propelled through tiny holes by a centrifugal spinner - creating the fibers. These are sprayed with a binder and shaped into a blanket. Then the blanket passes through a curing oven. During this process, the blanket can be compressed to achieve its final thickness. The blanket is then cut to the required width. Off-cuts are recycled. A facing can eventually be glued to the blanket**.**

Construction process stage, A4-A5

The construction process is divided into 2 modules: transport to the building site A4 and installation A5.

A4. Transport to the building site

This module includes transport from the production gate to the building site. Transport is calculated on the basis of a scenario with the parameters: lorry 16-32 ton (EURO 5) with a 16 Mg payload, diesel consumption 38 liters per 100 km, distance 500 km, 100 % of the capacity in volume, 30 % of empty returns, bulk density 17.5 kg/m^3 (average), volume capacity utilization factor 1.

A5, Installation in the building

Wastage of products 5 %, these losses are landfilled (landfill model), additional production processes to compensate for the loss. Distance of 25 km to landfill is assumed. Packaging wastes are 100 % collected and modeled as recovered matter. No additional accessory was taken into account for the implementation phase - installation.

Use stage (excluding potential savings), B1-B7

Description of the stage: The use stage is divided into the following modules:

- B1: Use
- B2: Maintenance
- B3: Repair
- B4: Replacement
- B5: Refurbishment
- B6: Operational energy use
- B7: Operational water use

Description of scenarios and additional technical information:

Once installation is complete, no actions or technical operations are required during the use stages until the end of life stage. Therefore, mineral wool insulation products have no impact (excluding potential energy savings) on this stage.

End of life scenarios (C module)

It is assumed in phase C1 for glass wool products may be removed/re-assembled by a small-scale mechanical equipment (electricity used). It is assumed that at the end of life the transport distance from the product deconstruction place to landfill (C3) is 50 km on > 16 t loaded lorry with 75% capacity utilization and fuel consumption of 30 l of ON per 100 km. Materials recovered from dismantled products are landfilled according to the realistic treatment practice (mass allocation) of industrial waste what is presented in Table 1. There is no recovery, recycling or reuse of the product once it has reached its end of life phase. The glass wool is assumed to be 100% landfilled. The recycling potential for a new product systems is considered beyond the system boundaries (module D) based on literature recommendations and potentially realistic practice.

Table 1. End of life – realistic scenarios for glass wool

Glass wool products	Material recovery	Recycling	Landfilling	Incineration
All types	99%	0%	100%	0%

Reuse/recovery/recycling potential, D

Description of the stage: no gains or losses are generated for the adopted scenario.

Data collection period

The data for manufacture of the declared products refer to period between 01.01.2019 – 31.12.2019 (1 year). The life cycle assessments were prepared for Poland as reference area.

Data quality

The data quality can be described as fair to good. The primary data collection has been done thoroughly, all relevant flows are collected and considered in LCI questionnaire document. Technological, geographical and temporal representativeness is given. The values determined to calculate A3 originate directly from verified LCI inventory data filled by Isover representative. A1 impact values were prepared considering Ecoinvent data v.3.7. Cullet data was supported by Isover data. Energy carriers data is based on national KOBiZE report (2019).

Calculation rules

LCA was done in accordance with ITB PCR A document and EN 16783.

Influence of particular thicknesses

All the results in the table of this EPD refer to a functional unit of 1 m² with a thermal resistance equals to 2.60 m^{2}K/W (100mm). This EPD allows to calculate the range data of product thicknesses between 50 mm and 200 mm. For every thickness, using a multiplication factor is recommended (Table in order to obtain the environmental performance of the thickness. In order to calculate the multiplication factors, a reference unit has been selected (value of R= 2.60 m^{2}K/W for 100 mm). The various multiplication factors are obtained by making the LCA calculations for all thicknesses (including the various facing and packaging). In the next table the multiplication factors are shown for every specific thickness of the product family. In order to obtain the environmental performance associated with every specific thickness, the results expressed in this EPD shall be multiplied by its corresponding multiplication factor (Table 2).

Table 2. Multiplication factor (of environmental impacts) for other product thicknesses

PRODUCT THICKNESS (mm)	MULTIPLICATION FACTOR
50	0.5
100	1.0
150	1.5
200	2.0
250	2.5
280	2.8

Databases

The background data for the processes come from the following databases: Ecoinvent v.3.7. Quality of specific data was audited. Characterization factors are CML ver. 4.2 based. ITB-LCA algorithms were used for all impact calculations. The time related quality of the data used is valid (5 years).

Comparability

Environmental product declarations of construction products may not be comparable if they do not comply with EN 15804 and environmental product declarations within the same category from different programs may not be comparable. The manufacturer is responsible for its own data presented in the declarations.

Environmental Positive Contribution

Recycled material content

Isover glass wool's recycled glass content is on the average 22% Recycled glass content calculation is based on the product weight and calculated according to the ISO 14021:2016 using the 2019 raw material and production data.

LCA results

Table 3. System boundaries (modules included) in a product environmental assessment

System boundaries (MA – module assessed, MND=module not assessed, INA – Indicator Not Assessed)																	
Product stage			Construction installation stage		Use stage							End of life stage					Beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal		Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		D
MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA		MA

Functional unit

The declaration refers to the unit FU – 1 m² of mineral wool with a thermal resistance of 2.60 m^2K/W (100mm).

ENVIRONMENTAL IMPACTS

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	1.88E+00	5,31E-02	9,39E-02	0	0	0	0	0	0	0	3.06E-02	5.31E-03	0.00E+00	4.61E-02	0.00E+00
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas, carbon dioxide, which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	1.24E-07	0.00E+00	6.21E-09	0	0	0	0	0	0	0	3.37E-10	0.00E+00	0.00E+00	1.76E-09	0.00E+00
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons), Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	1.13E-02	2.44E-04	5.65E-04	0	0	0	0	0	0	0	2.69E-05	2.43E-05	0.00E+00	5.38E-05	0.00E+00
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production, heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	5.38E-03	1.56E-05	2.69E-04	0	0	0	0	0	0	0	1.39E-04	1.56E-06	0.00E+00	1.00E-05	0.00E+00
	Excessive enrichment of waters and continental surfaces with nutrients, and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	3.24E-03	4.31E-05	1.62E-04	0	0	0	0	0	0	0	1.12E-06	4.31E-06	0.00E+00	2.64E-05	0.00E+00
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil resources (ADP-elements) - *kg Sb equiv/FU*	2.03E-02	0.00E+00	1.02E-03	0	0	0	0	0	0	0	2.27E-04	0.00E+00	0.00E+00	9.23E-03	0.00E+00
Abiotic depletion potential for fossil resources (ADP-fossil fuels) - *MJ/FU*	4.46E+01	4.19E-01	2.23E+00	0	0	0	0	0	0	0	3.50E-01	4.19E-02	0.00E+00	2.00E-01	0.00E+00
	Consumption of non-renewable resources, thereby lowering their availability for future generations.														

RESOURCE USE

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Re us
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy used as raw materials *MJ/FU*	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	4.45E+00	2.93E-02	2.22E-01	0	0	0	0	0	0	0	5.24E-02	2.93E-03	0.00E+00	2.08E-01	0.00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy used as raw materials *MJ/FU*	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	4.96+01	4.32E-01	2.48E+00	0	0	0	0	0	0	0	3.85E-01	2.15E-02	0.00E+00	2.08E-01	0.00
Use of secondary material *kg/FU*	1.09E+01	0.00E+00	5.45E-02	0	0	0	0	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Use of renewable secondary fuels- *MJ/FU*	3.48E-02	2.20E-02	1.74E-03	0	0	0	0	0	0	0	0.00E+00	2.20E-03	0.00E+00	0.00E+00	0.00
Use of non-renewable secondary fuels - *MJ/FU*	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00

Use of net fresh water - *m³/FU*	1.98E-02	2.31E-06	9.88E-04	0	0	0	0	0	0	0	1.10E-04	2.31E-07	0.00E+00	1.54E-04	0.00

WASTE CATEGORIES

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Re us
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	1.24E-02	8.30E-06	6.19E-04	0	0	0	0	0	0	0	4.66E-07	8.31E-07	0.00E+00	2.92E-07	0.00
Non-hazardous waste disposed *kg/FU*	1.62E-01	9.83E-03	8.08E-03	0	0	0	0	0	0	0	4.21E-03	9.86E-04	0.00E+00	7.71E-01	0.00
Radioactive waste disposed *kg/FU*	1.63E-05	0.00E+00	8.16E-07	0	0	0	0	0	0	0	4.66E-07	0.00E+00	0.00E+00	1.11E-06	0.00

OUTPUT FLOWS

Components for re-use *kg/FU*	2.94E-05	0.00E+00	1.47E-06	0	0	0	0	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Materials for recycling *kg/FU*	2.46E-02	0.00E+00	1.23E-03	0	0	0	0	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Materials for energy recovery *kg/FU*	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Exported energy *MJ/FU*	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00

LCA interpretation

Interpretation of the results has been carried out considering the methodology, data-related assumptions and any limitations declared in the EPD. When analyzing the above figure for GWP (carbon footprint) it can clearly be seen that the majority of contribution to this environmental impact is from the production modules (A1 and A3). This is primarily because the sources of greenhouse gas emissions are predominant in this part of the life cycle. CO_2 is generated upstream from the production of electricity and is also released on site by the combustion of natural gas. The other sections of the life cycle also contribute to the GWP; however, the production modules contribute to over 90% of the contribution. It should also be mentioned that the use of glass waste for production is much better than the use of natural raw materials rock. The consumption of non – renewable resources is once more found to have the highest value in the production modules. This is because a large quantity of natural gas is consumed within the factory and non – renewable fuels such as natural gas and coal are used to generate the amount of electricity in Poland. The contribution to this impact from the other modules is very small and primarily due to the non – renewable resources consumed during transportation. Energy Consumptions in modules A1 – A3 have the highest contribution to total energy consumption.
For the production phase, water is used within the manufacturing facility and therefore the highest contribution is there. However, Isover recycles a lot of the water on site so the contribution is still relatively low. Waste production does not follow the same trend as the above environmental impacts. The largest contributor is the end of life module. This is because the entire product is sent to landfill once it reaches the end of life state. However, there is still an impact associated with the production module since Isover generate some waste on site (partly recycled). The end of life second scenario, based on the 100% landfill gives significantly no environmental benefits in D module.

Verification

The process of verification of this EPD was in accordance with ISO 14025 and ISO 21930. After verification, this EPD is valid for a 5-year-period. EPD does not have to be recalculated after 5 years if the underlying data have not changed significantly.

The basis for LCA analysis was EN 15804:2012+A1, ITB PCR A and EN 16783
Independent verification corresponding to ISO 14025 (subclause 8.1.3.) [x] **external** [ ] **internal**
External verification of EPD: Ph.D. Eng. Halina Prejzner **LCA. LCI audit and input data verification: Ph.D. Eng. Michał Piasecki, m.piasecki@itb.pl** **Verification of LCA: Ph.D. Eng. Justyna Tomaszewska, j.tomaszewska@itb.pl** **LCA document prepared by M.Sc. Dominik Bekierski, d.bekierski@itb.pl**

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CERTIFICATE № 161/2021 of TYPE III ENVIRONMENTAL DECLARATION

Product:

Uni-Mata 38 - Mineral glass wool for use in construction

Manufacturer:

Saint-Gobain Construction Products Polska Sp. z o.o.
ul. Okrężna 16, 44-100 Gliwice, Poland

confirms the correctness of the data included in the development of Type III Environmental Declaration and accordance with the requirements of the standard

PN-EN 15804+A1

Sustainability of construction works.
Environmental product declarations.
Core rules for the product category of construction products.

This certificate, issued for the first time on 1st March 2021 is valid for 5 years or until amendment of mentioned Environmental Declaration

Acting Head of the Thermal Physic, Acoustics and Environment Department
Agnieszka Winkler-Skalna, PhD

INSTYTUT TECHNIKI BUDOWLANEJ

Deputy Director for Research and Innovation
Krzysztof Kuczyński, PhD

Warsaw, March 2021